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UNDER THE EDITORSHIP OF

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Research in Social Science, University of North Carolina*

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AN INTRODUCTION TO SOCIAL RESEARCH

BY

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PREFACE

This *Introduction to Social Research* has grown out of a very practical situation and a very specific need for help in regional social research and in training research personnel at the University of North Carolina. Begun in the spring of 1925 it has been prepared to meet this need and also the increasing demand for an elementary textbook in the fundamentals of social research. As an introductory volume, it makes no pretense to exhaustive treatment or comprehensive details of methodology or case, as do the notable analyses of the *Case Book on Scientific Method in the Social Sciences*, being prepared by the Social Science Research Council. It does, however, attempt to present the "elements" which enter into the present-day problem of social research in such way as to guide the student and to interest also those who have specialized in technique or who are training and directing research specialists. If at the same time the volume may contribute something toward a broader background, a better understanding of the range and difficulty of the problem, and a more definite scientific attitude on the part of the great majority of younger teachers of social science, and something toward the interpretation and promotion of the whole social research program, it will have an added value. And it is hoped that the volume will approach the whole problem of social research in such way as to discourage from entering this field many who are not adapted to such difficult work and to encourage many others of ability and aptitude to undertake maximum preparation for what is universally conceded to be one of the most important tasks of the present era.

Other considerations have entered into the plan and preparation of the volume. A startlingly concrete factor is the consideration that in no one of the social sciences does there seem to be unanimity or even general agreement concerning definition, scope, method, or objectives of its own research or concerning the appraisal of the other social sciences. Appraisal of the social sciences by the physical scientists and of the physical sciences by the social scientists reveals a similar lack of unity, and in each case there

appears also a certain amount of antagonism and unsympathetic understanding quite incompatible with the scientific spirit. And this status seems to be accepted as a rather matter-of-fact corollary of the present stage of development of the social sciences. There does appear, however, agreement that the present status of the social sciences is unsatisfactory, that this present self-conscious criticism and increased interest is a wholesome index of future development, that the task of the social sciences constitutes the most important problem appearing on the modern horizon, and that there are reasonable prospects that the task will be attacked with intelligence and with vigor. Review of the social sciences and the various approaches to the scientific study of human society reveals another agreement that they have an unusually rich background and historical development progressing steadily from definite norms of philosophical and analogical study toward scientific research and real social theory. The conclusion seems warranted, therefore, that the social sciences are on the eve of a new development of assured scientific proportions yet to be determined and perfected. It is the purpose of this book to bring the student into a practical working relation with this situation and to guide him not only in the routine processes of social study and research, but so far as possible also into a certain amount of inventiveness and pioneering into scientific-human research of the future.

The preparation of a volume of this sort manifestly requires a large degree of coöperative effort or fair success in integration and interpretation of status, trends, and problems in its field. The present volume is an exercise in the latter method, with however the additional factor of advisory contacts with a considerable number of specialists in the several fields whose suggestions have been most helpful, but who are in no way responsible for limitations of the book. Particular emphasis has been placed upon the organization and plan of treatment and upon the wide samplings of illustrative materials cited to illustrate variable usage and divergent viewpoints. If the plan at first appears somewhat mechanical it is hoped that the complete and critical view of the book will reveal a certain unity, comprehensiveness, and logical approach difficult to attain without some such organization of materials. A specific mechanical technique of the blocked paragraph is introduced as a simple device for setting forth illustration,

quotation, abstract, and reference the more quickly and effectively. In the selection of examples and samplings we have not always presented the best, nor could we be exhaustive. Sometimes the best examples have not been available for quotation and often, no doubt, we have not found many that would have been more effective than those used. The effort in every instance has been simply to state the case and to support it with acceptable evidence. Nor have we attempted to evaluate examples and citations, emphasizing rather type and illustration. For this reason, identification of authorities has been by complete name or initial except where constant repetition makes this unnecessary. We have frankly made no effort to cite a great many original sources, utilizing rather secondary sources appropriate to such an elementary volume as this. We have assumed that citation of pioneers and current leaders such as Roscoe Pound, Wesley C. Mitchell, Frederick J. Turner, Charles E. Merriam, Clark Wissler, William F. Ogburn, John Dewey, Robert S. Woodworth, Robert E. Chaddock, C. Judson Herrick, whose inquiries have extended to original sources, both historical and current, to mention one each only from the major social sciences, and others like them, would be entirely adequate to the purposes of this volume.

A few preliminary notations may be important here. Manifestly the volume depends especially upon its unity and the interrelation and interdependence of its chapters for its value. Later chapters are particularly dependent upon earlier ones, but more especially the treatment of the several "approaches" and "methods" is in no way complete without the final chapters. In the case of the approaches it is important to note that their first emphasis is historical and generally analytical in that they show development and status but are not set forth as necessarily requisite parts of the new structure and function of social research. The philosophical factors, for instance, in social study, while clearly not social research, can not be neglected either in their past influence or in the present search for a scientific method and spirit. Again, the chapters dealing with the several approaches are in no sense intended to provide an analysis or "outline" of the discipline involved, but represent only what is implied in the term approach, which again is utilized because it appears to be the most representative one available. The premise of the volume

is that there is no one special method of social research and that new and significant developments in methods of social research are now well on the way. These will grow out of the mastery of the controlling factors of analysis, synthesis, method and personnel. If the economists and political scientists have been cited in reference to, let us say, the historical method, or human behavior as a key element, or if the sociologists have been cited rather more frequently in many aspects, it is for the reason that contributions are sought eagerly from whatever source and that they have been more articulate, whether authentically or not, than specialists in other fields.

Finally, we claim no exclusive evaluation for the present classification and terminology. The subject and the problem of this book is *social* research in all its phases with its backgrounds, interrelations, methods, and prospects. The problem has appeared to us to be two-fold: one the problem of synthesis, unity, and interrelation among the various approaches, disciplines, and methods; the other the problem of inaugurating and establishing upon a firm basis the scientific method in research into human affairs. Or stated in a little different manner, one is the problem of mastery in method and the other of mastery of the human factor in social research. The present plan appeared to us the most satisfactory pattern through which a workable introduction could be attained. To those who have assisted in the present plan, to those who have made helpful criticisms, and to those who will offer better classifications and better patterns we are deeply indebted and express our continuing appreciation.

We wish to thank all those—some two score—who have made valuable suggestions and criticisms of the plan of the book through personal letters and conferences without, however, involving them in the products of the volume for which they are in no way responsible. For special assistance and suggestions we wish to thank President Harry W. Chase, William F. Ogburn, Wesley C. Mitchell, Charles E. Merriam, Edmund E. Day, Clark Wissler, C. Judson Herrick, Stuart A. Rice, T. V. Smith, Paul Homan, Robert S. Lynd, Floyd H. Allport, as well as our colleagues at the University of North Carolina, and the secretarial staff of the Institute for Research in Social Science at the University of North Carolina.

CHAPEL HILL,
March, 1929.

H. W. O.
K. J.

CONTENTS

AN INTRODUCTION TO SOCIAL RESEARCH

CHAPTER I

	PAGE
SCIENCE AND THE HUMAN SEARCH	3

Science as search—Science and caution—The general meaning of science—Science as knowledge and truth—Science as method—Science as law and perfection—Science as an attitude of mind—Science as intellectual orientation—Science as hypothesis—Science as common sense—Science popularly interpreted—Science as pseudo-science—Science and art—Quarrels with science—A fourfold consistency in science—Developing the scientific program.

CHAPTER II

THE METHODS OF SCIENCE AND RESEARCH	20
---	----

Scientific method and methods in the social sciences—The Case Book on scientific methods in social science—Scientific research as scientific method—Deduction and induction—Scientific method as “steps” or phases in the research process—The physical and social sciences—Research the chief mode of science—Social study, theory, and scientific research—The reach and scope of research—General concepts of research—“Pure” research—Applied research—Research specialization—General varieties of research—Research and the methods of science.

CHAPTER III

THE PHYSICAL SCIENCES AND THE SOCIAL SCIENCES	39
---	----

Unity of science in social development—Expansion of physical science—Invention and social progress—National Research Council—Integration of physical and social science with society—The influence of the physical scientists upon the social scientists—The physical sciences and the social sciences—Fallacies of pure analogy—Unity between the physical and social sciences—Differences between the physical and social sciences—Developing the social sciences by the aid of the physical.

CONTENTS

CHAPTER IV

THE DEVELOPMENT AND INTERRELATION OF THE SOCIAL SCIENCES	PAGE
	53

The rise of the social sciences—Alignment with the physical sciences—The range of the social sciences—The Case Book, Encyclopaedia, and Social Science Abstracts—Recent general developments in the social sciences—Divisions within the social sciences—The logical development of the social sciences—Prevailing limitations of the social sciences—The new alignment of the social sciences—Aspects of interrelation—Types of interrelations—Other interrelations—The promise of the social sciences.

CHAPTER V

THE RANGE OF SOCIAL RESEARCH	71
--	----

The range of the social disciplines—The range of the Encyclopaedia of the Social Sciences—The range of scientific articles—Research in the humanistic and social sciences—The Social Science Research Council range—Population as an example—War as an example—The family as a composite problem—Southern regional social study and research—Illustrated by a special regional problem—Applied to special approaches and methods.

CHAPTER VI

TYPES OF APPROACH: THE PHILOSOPHICAL	90
--	----

The general approach—A special classification—The philosophical approach—Philosophy and science—Philosophy as prologue and epilogue to science—Philosophy and social theory—Social philosophy—Scientific philosophy—Philosophy and present-day social science—Philosophy, logic, and scientific method—Social ethics and social research—The “philosophical” approach to the study of the future—Philosophy and “intellectual” stock-taking—Philosophy and special social problems.

CHAPTER VII

TYPES OF APPROACH: THE GENERAL ANALOGICAL	108
---	-----

Early physical analogies—Mechanistic theories—Biological and organic analogies—Contemporary comparative approaches—Effective analogies—Utopias as wishful analogies—Appraisals of the analogical approach—Analogy versus identity—Popular false analogies.

CONTENTS

xi

CHAPTER VIII

	PAGE
TYPES OF APPROACH: THE BIOLOGICAL	120

Human biology—Organic analogies—A critical view—Social Darwinism—Biology and social development—Other contributions of biology—Biology and general social problems—Eugenics and social research—A growing contribution—Special selected problems.

CHAPTER IX

TYPES OF APPROACH: THE PSYCHOLOGICAL	133
---	------------

The expanding psychological approach—Human behavior the key problem—Organic analogies—Other earlier psychological approaches—Recent trends in the psychological approach—The inherent basis of behavior—Social psychology—The institutional approach—Special contributions—Psychology and special social problems.

CHAPTER X

TYPES OF APPROACH: THE ANTHROPOLOGICAL	148
---	------------

The study of man—Analogy and comparative study—General contributions—The “cultural” approach—Anthropogeography and race—Anthropological approach to special problems.

CHAPTER XI

TYPES OF APPROACH: THE POLITICO-JURISTIC	159
---	------------

Analogical and organic theories—Essence and comparative analogy—Analogical forms and processes—Analogy extended to natural laws and social laws—Jurisprudence and natural laws—Politics and geography—Democracies and the state—Public welfare—Social politics—Political science and political economy—Other newer types of approach—Continuing developments—Contribution to special problems.

CHAPTER XII

TYPES OF APPROACH: THE ECONOMIC	176
--	------------

The politico-economic—The economic, a comprehensive and advanced approach—The economic approach to social problems and social welfare—Economic interpretation—Types of analogy—The philosophical background of the economic approach—Economic “theory”—Current tendencies—Research problems—Special selected problems.

CHAPTER XIII

TYPES OF APPROACH: THE SOCIOLOGICAL	PAGE 193
---	-------------

The sociological compared with other approaches—Other distinctive concepts—The wide range of sociological approach—Synthesis and method—Earlier philosophical approaches—Other viewpoints of sociological approach—Theories and concepts—Current tendencies in the sociological approach—In American colleges and universities—Specially selected problems.

CHAPTER XIV

TYPES OF METHOD: THE HISTORICAL	210
---	-----

Approach and method—The historical approach—The meaning and reach of history—From approach to method—History and method—Fundamentals of the historical method—Limitations of the historical method—The historical method and cooperative research—History and special social problems.

CHAPTER XV

TYPES OF METHOD: THE CASE	229
-------------------------------------	-----

Records and the case—Underlying principles—Case study versus case work—Characteristics of the case method—The range and objectives—Scientific validity of the case method—Relation to disciplines and other methods—Qualitative interpretation—Classification and technique of cases—The case method and special social problems.

CHAPTER XVI

TYPES OF METHOD: THE SURVEY	244
---------------------------------------	-----

Early development—The social survey—Objectives of the social survey—Characteristics of the survey method—The survey method as a scientific approach—Limitations—The survey method versus the case method—Types of surveys—The survey method and special social problems.

CHAPTER XVII

TYPES OF METHOD: THE EXPERIMENTAL	260
---	-----

Invention and experimentation—The experimental method and special problems—Pioneer belts as experimental studies—Other fields for social experimentation—Social experimentation in business and politics—Utopias and community social experimentation

—Borderline experimentation—Human participation in social experimentation—The experimental method a keynote to all science—Corollaries of the experimental method—Further applications to the social sciences—The present problem—Developing social experimentation.

CHAPTER XVIII

TYPES OF METHOD: THE STATISTICAL 284

Statistics and the unity of social research—The developing science of statistics—Application of statistics—The heart of the statistical contribution—Social statistics—Relational elements of statistical method—Measuring the capacity of the statistical method—Limitations of the statistical method—Observation, description, and statistics—Statistics and analysis—Statistics and special social problems.

CHAPTER XIX

TYPES OF METHOD: THE SCIENTIFIC-HUMAN 305

Diversity and antagonisms—The telic character of social research—The social sciences different from the physical sciences—Distinctive nature of human phenomena—The human factor in social research—Requisite method for scientific-human research—Present trends—Applied to special social problems.

CHAPTER XX

TYPES OF PROCEDURE: PERSONNEL AND COMMON-SENSE TECHNIQUE 324

The place of personnel in social research—The physical scientist and the social scientist—Essential personal qualities and equipment—Special attributes—Negative aspects—General common sense—Common sense in everyday procedure—The development and training of personnel.

CHAPTER XXI

TYPES OF PROCEDURE: EXPLORING THE SOURCES 342

Illustrating a type of procedure in text—Selecting a problem—Defining and delimiting the subject—Preparing for the study—Obtaining data from primary sources—Secondary investigation—Library research—Catalogs and indexes—Special references and sources—Journals and periodicals—Bibliographies—Making up

	PAGE
a bibliography—Reading and readings—Taking notes—Length of notes—Details of taking notes—Filing notes—The interview—Preparing for the interview—Correspondence, telephone, and telegraph.	
 CHAPTER XXII	
TYPES OF PROCEDURE: UTILIZING AVAILABLE AIDS	371
First essentials of the schedule—Making the schedule effective—The questionnaire—Statistical helps—The typewriter—The ediphone or dictaphone—Duplicating and reproducing—Filing and filing cases—Further helps.	
 CHAPTER XXIII	
TYPES OF PROCEDURE: ANALYZING, INTERPRETING, AND PRESENTING RESULTS	386
First steps in analysis and interpretation—Organizing and writing up results—The general form of presentation—Citations, references, and footnotes—The bibliography—Preparing the manuscript—Making research available.	
 CHAPTER XXIV	
TYPES OF PROCEDURE: SOCIAL ANALYSIS AND THE SOCIAL DENOMINATOR	402
Social research and social analysis—Limitations and prospects—Social analysis and the social denominator—Simple illustrations—Folk-background studies—Social prepotency—Other regional examples—Classical examples—“Hidden springs of the economic order”—General examples—The development and extension of social research—The applications of social science.	
 CHAPTER XXV	
TYPES OF PROCEDURE: A REPRESENTATIVE BIBLIOGRAPHY	425
Basis of classification and selection—“Original” sources—Representative bibliography.	
INDEX	469

AN INTRODUCTION TO SOCIAL RESEARCH

CHAPTER I

SCIENCE AND THE HUMAN SEARCH

Two major implications of science in the modern world may be assumed at once in this introduction to social research. The one is science seeking to discover truth and the other is science seeking to attain mastery. The one emphasizes explanation and the other direction. These two viewpoints offer no irreconcilable inconsistencies and bring no incongruous conflict. They are normal units and modes in structure and function. For the sciences—the physical sciences and the social sciences—have become so integrated with life and society and so interrelated and interdependent in all their different branches that they approach the world and man with new team work and precision. Thus the old conceptions of “pure” science and “applied” science hold vital meanings today largely as they relate to concrete objectives, method, and personnel, rather than as they concern the fundamentals of scope and content of modern universal science, which may achieve its scientific character in process of extension as well as in modes of discovery. This does not mean that there are not to some extent the two “schools” of attitude, but that even an elementary review of the varied connotations of science will show its unity. The nature and consistency of the purposive or telic implication of science will be discussed fully in later chapters, while the final unity of the sciences will be interpreted in Chapter XIX, dealing with the scientific-human method of social research. This unity is of special importance in the consideration of the too-often neglected factors of interrelation between the physical and the social sciences and among the social sciences themselves, as well as in the general development of science to its present status.

Science as Search. A guiding and universal motive of mankind has been the search for something else, something more. This something has encompassed the whole range of experience—knowledge, adjustment, happiness, power. “Man looks before

and after" and in his search a common possession, and one of the most powerful of human motives, has been the primitive passion of curiosity. The forms and objectives which this passion for knowledge, adjustment, and development has taken have varied widely. Sometimes the search has been through the realm of magic and mystery. Sometimes it has expressed itself primarily in religion. At other times it has taken the form of expression in various arts and practices born of cultural experience and emergency. Sometimes it has been the Darwinian impulse of the mind solely to learn something about the universe and itself. Sometimes it has been the search for the unknown—the primitive man seeking mastery by naming of names and the moderns by inventing technical labels. Sometimes the search has been for safety, or for comfort, or for happiness. In modern times in this human search science has been given the highest authority, while the development of scientific method and the technique of research constitute major steps.¹ It is the purpose of this chapter to examine in an elementary way such characteristics and concepts of science as make it the keynote to the modern world, and as will enable us to come to a fair understanding of its meaning, scope, method, and attainable objectives.

Science and Caution. We begin with the frank assumption that there is no need to prove the case for science. What we shall need to do, however, is later to appraise science as the tool of the human search and distinguish it from other inquiring modes, as well as to define clearly the concepts of "pure" and telic science. There is further need to distinguish between science and much that is called science in a believing world which assumes that it is scientific. David Starr Jordan has referred to those who would hurry up the future by something that looks like science rather than by science itself, as members of an underworld of science.² The sweep of modern discovery, together with the popularization of knowledge and the vast amount of pseudo-science being gen-

¹ Typical expressions of this tendency to make science the dominant factor in modern civilization are reflected in a number of new popular volumes such as, C. A. Beard's *Whither Mankind*; H. E. Barnes' *Living in the Twentieth Century*; Clive Bell's *Civilization*; E. A. Ross' *World Drift*; Edward M. East's *Heredity and Human Affairs*; H. M. Parsons' *Science and Good Behavior*; Hendrik Van Loon's *Man the Miracle Maker*.

² "The Underworld of Science," *Science*, 62, pp. 326, 327.

erated make it more important than ever that the meaning and methods of science be well known and well used if it is to find its normal place in the future society. Nevertheless there must be no narrow meaning of science and no limited application of its method and reach. There must be no mere knowledge of the facts of life exclusive of the generic spirit and method of science. Professor Findlay, of the University of Aberdeen, has stated this principle well when he writes that "A knowledge of the *facts* of science is good and necessary, but if we fail to communicate to the student the *spirit* of science, we have failed in our most important task."³ Thus Darwin's enthusiastic "How grand is the onward rush of science" suggests the need for clear understanding, scientific caution, and social power in the development of this scientific world. This need will be further apparent from a review of current meanings and concepts of modern science.

The General Meaning of Science. From common usage science long denoted the "natural" or physical sciences. "Science" was physical science, whether in the college and university catalogue or in the common understanding of educated folk. Science in the modern world, however, with its topmost pinnacle of influence, seeks knowledge and understanding from all source materials of this world and of all possible worlds and of all life upon them.

Fundamental to begin with is the Pearsonian dictum that the word science "applies to all reasoning about facts which proceed, from their accurate classification, to the appreciation of their relationship and sequence."⁴ Frederick Barry interprets science as "Any concern or occupation sufficiently important, purposive, practical, explicit, and rational, which is based on knowledge or its pragmatic equivalent,"⁵ and holds the rational utilization of knowledge for the attainment of definite results to be within the bounds of the scientific. Something of the same purposive meaning of science is expressed in Charles D. Walcott's judgment that "The search for truth and the interpretation of facts and their verification and application must continue, with ever enlarging conceptions, until the ultimate destiny of our race is fulfilled. The scientific method is the only method by which the errors of the present and the truth of the future

³Alexander Findlay, "Appeal of Science to the Community," *Science*, 62, p. 363.

⁴*The Grammar of Science*, p. 24.

⁵*The Meaning of Science*, ch. i.

may with certainty become known.”⁶ The general meaning of science is also well stated in *Franklin H. Giddings*’ verdict that “Science is nothing more nor less than the getting at facts and trying to understand them, and that what science does for us is nothing more nor less than helping us to face facts.”⁷ Or one may range backward to *Sir Oliver Lodge*’s assumption that the larger search is after truth not only about our own world but also about “an illimitable assembly of other worlds.”⁸ Or, again, for *J. B. S. Haldane*, science evolves its meanings from three starting points. “First, it is the free activity of man’s divine faculties of reason and imagination. Secondly, it is the answer of the few to the demands of the many for wealth, comfort, and victory, for gifts which it will grant only in exchange for peace, security, and stagnation. Finally, it is man’s gradual conquest, first of space and time, then of matter as such, then of his own body and those of other living beings, and finally the subjugation of the dark and evil elements in his own soul.”⁹

Science as Knowledge and Truth. This interpretation of science as getting at facts, searching for truth, and mastery of relationships, is perhaps the most common and comprehensive of current concepts. The discovery of facts and the attainment of knowledge, however, are not all. That is, “facing the facts” and trying to understand them are parts of the process of attaining truth, which is the greater objective of science. Knowledge and fact are human ways of measuring truth, which is after all the big organic objective. Science is in this respect identical with *Spengler*’s “Timeless truths which we know by dissection and distinction.”¹⁰ Based upon certain facts and evidences a civil court’s proper verdict might rule that such and such a situation was true because the conclusions were drawn from actual records and cases. The truth of the relational situation in actual life may be quite different. The reliability of fact as scientific evidence will depend upon what other facts are available and their meaning in this particular case. The old fallacy of half truths finds its nurture in partial interpretation. Thus we may interpret science in terms of fact and knowledge, provided they include the

⁶ “Science and Service,” *Science*, 61, pp. 1, 2.

⁷ *Scientific Study of Human Society*, p. 37.

⁸ *Science and Human Progress*, p. 155.

⁹ *Dædalus, or Science and the Future*, pp. 81-82.

¹⁰ Oswald Spengler, *The Decline of the West*, p. 142.

whole process of discovery, relation, and interpretation. Knowledge is never pure knowledge but always relative, constantly playing back and forth through error, experimentation, empiricism, pragmatism, and skepticism.

Charles H. Cooley, calling attention to the fact that men of the past thought they *knew* what we regard as nonsense, emphasizes science as "knowledge that is very feeble and cumulative, that can be established to the satisfaction of an expert group and endure as the basis of new acquisitions."¹¹ He points out further that it is not easy to test such knowledge since no expert group is "a trustworthy critic of its own premises." Thus science is not only knowledge, but superior knowledge tested and retested, organized, living, growing, fertilized, and cross-fertilized.¹² *C. M. Case* epitomizes his collected views by making science synonymous with "systematically organized knowledge concerning observed phenomena,"¹³ while *L. L. Bernard* defines science as tested and classified knowledge. "It is not a matter of primary importance whether this knowledge comes from the laboratory or from some form of observation properly controlled and tested and generalized. The source of the knowledge is of secondary importance. Its accuracy is the primary consideration."¹⁴ *Robert H. Chaddock's* statement that "Science is knowledge gained and verified by exact observation expresses the same general relational interpretation,"¹⁵ as does also *Charles A. Ellwood's* "accurate, tested, and systematized knowledge."¹⁶ *Sir Oliver Lodge's* statement is that science is "a system of ordered, systematized, detailed, and as far as possible mechanical knowledge about the things we experience in this world."¹⁷ *Joseph K. Hart*, calling attention to the fact that knowledge is one of the by-products of the scientific mood, insists that "knowledge is not science," but "knowledge about knowledge."¹⁸ Finally, the classical statement of *Karl Pearson* that "classification of facts, the recognition of their sequence and relative significance is the function of science,"¹⁹ may be compared with *Lester F. Ward's* warning against the assumption that science consists merely in the discovery of facts. "There is

¹¹ *Life and the Student*, p. 148.

¹² *Frederick Barry, The Scientific Habit of Thought*, p. 21.

¹³ *Outlines of Introductory Sociology*, p. 15.

¹⁴ *Introduction to Social Psychology*, p. 3.

¹⁵ *Principles and Methods of Statistics*, p. 23.

¹⁶ *The Psychology of Human Society*, p. 1.

¹⁷ *Science and Human Progress*, p. 26.

¹⁸ *Inside Experience*, p. 289.

¹⁹ *The Grammar of Science*, p. 6.

not," he says, "a single science of which this is true and a much more nearly correct definition would be that science consists in reasoning about facts."²⁰

Science as Method. Alongside the common concepts of science as knowledge and truth are the companion interpretations that science is largely synonymous with *method* on the one hand, or with *law* on the other. A social discipline, for instance, might classify as a science either because it has reached the stage of developing precision and laws or because of its scientific method in going about the study of social phenomena. Thus method in the larger sense of the word becomes more important than fact, because it is only through scientific method that elimination of error is possible.

Karl Pearson quotes science as asserting that "the scientific method is the sole gateway to the whole region of knowledge."²¹ *E. W. Allen* suggests that the method of science is largely a matter of "general principles of securing accuracy" and holds that the progress of science must depend upon the perfecting of present methods and developing of new methods to enlarge the field of research, and also to guarantee more accurate and trustworthy records. That is, "the method of science is a perfected application of the human resources of observation and reflection."²² Accordingly, science becomes not only a body of knowledge but the procedure which discovers and interprets this knowledge and with some view of the policy of its function. Thus, again, *Karl Pearson* emphasizes the fact that a "unity of all science consists alone in its method, not in its material" because the material of science is coextensive with the whole universe, past, present, future.²³ *Frederick J. Teggart* calls science "a method of dealing with problems,"²⁴ and believes that the word science has come, at the present time, to stand for branches of inquiring, characterized by specific aims and modes of procedure. *Edward C. Lindeman* insists that "science is a method of solving problems."²⁵ Again, *Chaddock* calls attention to the objective of science to develop proper procedure

²⁰ *Pure Sociology*, 2d ed., p. 6. See also W. P. Meroney, "The Meaning and Method of Science," *The Southwestern Political and Social Science Quarterly*, VI, 85.

²¹ *The Grammar of Science*, p. 24. See in Chapters II and XXIV of the present volume notations on the meanings of "method."

²² "The Nature and Limitations of Research," *Publications of the American Sociological Society*, XXI, 237.

²³ *The Grammar of Science*, p. 12.

²⁴ *The Processes of History*, p. 1.

²⁵ *Social Discovery*, p. 9.

—the careful collection and classification of facts, the study of their mutual relationships and the understanding of the meaning of these relationships.²⁶ *A. d'Abro* makes science synonymous with the distinctive method of science based on “the accuracy with which facts are studied and coördinated and the number of facts considered.”²⁷ *Karl Pearson* again makes vivid the meaning of science and method when he says “There is no short-cut to truth, no way to gain in knowledge of the universe except through the gateway of scientific method.”²⁸

Science as Law and Perfection. In the historical development of science, the concept of law, precision, and perfection has had an important place. Thus *d'Abro* conceives of science transforming commonplace knowledge to the lofty form of scientific knowledge, a sort of formulation of a mental constrict capable of coöordinating in a rational and simple manner the sum total of our sense impressions.²⁹ He refers to relativity as the perfection of classical science. And *Spengler* makes science either form or law, numbers or directions.³⁰ So, the development of the physical sciences and of their applications to societal affairs have often been commensurate with the development of “laws.” Thus, *Newton's* physics, Gothic cathedrals, *Rembrandt's* pictures, *Beethoven's* quartets, *Euclid's* polyhedrons, and *Galileo's* laws of mechanics all represent scientific precision and perfection.

On the ground that science is “essentially a system of laws and theories,” *A. D. Ritchie* classifies science into six groups, the laws of number, the laws of space and time, the laws of motion, special physical laws of objects, other laws of objects, and the laws of mind.³¹ To him scientific discovery is the process of finding natural laws. *Henri Bergson* holds that the chief concern of modern science is with *laws*.³² The precision with which highly technical concepts of dimensionality and manifolds are developed is the essence of science just as *H. L. F. von Helmholtz's* concept that the first aim of natural science is to discover the motive forces and the motions underlying all alteration, whereby resolving itself into mechanics, is another concept. Also, science to the *n*th degree might be typified by the com-

²⁶ *Principles and Methods of Statistics*, p. 23.

²⁷ *The Evolution of Scientific Thought*, Pt. IV.

²⁸ *The Grammar of Science*, p. 17.

²⁹ *The Evolution of Scientific Thought*, p. 96.

³⁰ *The Decline of the West*, p. 97.

³¹ *Scientific Method*, pp. 17-54.

³² *Creative Evolution*. Tr. by Arthur Mitchell.

putation that it would take "millions of centuries for light to encircle the material universe although it can journey around the earth seven times a second."³³

Science as an Attitude of Mind. Over against these concepts of science as method and as law are the other very important qualifying ideas of science as an attitude of mind. Indeed it would perhaps not be far afield if we spoke of the open-minded attitude and the scientific spirit as being a part of the scientific method. The chief point of emphasis is that science is not mere technology or methodology; it may be a method of thinking. This indeed is often appraised as the chief characteristic of the modern scientific era.

Karl Pearson makes the touchstone of science "the universal validity of its results for all normally constituted and duly instructed minds."³⁴ *Michael I. Pupin* makes the heart of science zeal, thoroughness, devotion, "faith that truth and goodness are inseparable."³⁵ *Bertrand Russell* insists that "science is becoming increasingly a manner of life, a way of behaving, and is developing a philosophy which substitutes for the old conception of knowledge the new conception of successful behaviour."³⁶ *Ernest R. Groves* refers to science as an attitude of mind that human nature acquires with painful difficulty. This attitude of mind originating from universal instinct contains an important element of personal indifference. "Science is the highest form of that reality thinking of which the psychoanalysts make so much and stands in sharpest contrast with their definition of the easy-going pleasure-form thought. It is the most heroic effort the human mind can make to get rid of all personal inclination and bias in meeting an intellectual problem in order that the truth of any matter be as accurately known as is possible."³⁷ *Francis Peabody* estimates that "A greater gain to the world . . . than all the growth of scientific knowledge is the growth of the scientific spirit, with its courage and serenity, its disciplined conscience, its intellectual morality, its habitual response to any disclosure of the truth."³⁸ *Norman Campbell*, distinguishing between science as a body of practical and useful knowledge and science as a "pure intellectual study,"

³³ Sir Oliver Lodge, *Science and Human Progress*, p. 53.

³⁴ *The Grammar of Science*, p. 24.

³⁵ "Meaning of Scientific Research," *Science*, 61, p. 29.

³⁶ See also Charles A. Beard, *Whither Mankind*, ch. iii, "Science," p. 65.

³⁷ "Science and Social Unrest," *The Scientific Monthly*, 10, p. 158.

³⁸ W. T. Sedgwick and H. W. Tyler, *Short History of Science*, p. vi.

thinks that it appeals to "nothing but the disinterested curiosity of mankind."³⁹

Science as Intellectual Orientation. A continuation of this concept of science as an attitude of mind is that of intellectual orientation. One may so interpret *Dewey's* concept that science is a method of thinking, or *Irwin Edman's* "thinking alert and critical of its own methods."⁴⁰ The long story of science is a story of man's orientation from one stage of thinking and discovery to another. Thus there is no aggregate "certitude of science." Science is "certain" in special cases which in turn become oriented. Old relativities referred to conditions surrounding humanity; new relativity to the human observer's motion itself.

Joseph K. Hart emphasizes the orientation meaning of science when he says, "There can be no ultimately correct technics except thinking; and thinking can be called that, because it criticizes all technics, itself included. . . . Science is nothing but the complete release of the critical method."⁴¹ *Karl Pearson* goes so far as to say that "the laws of science are products of the human mind," and that science attempts to provide "a mental *résumé* of the universe."⁴² *Cooley* insists that the primary thing in any science is the "mind gifted and trained to absorb a certain sort of facts."⁴³ *Norman Campbell* refers to science again as "the study of those judgments concerning which universal agreement can be obtained."⁴⁴ *A. B. Macallum* emphasizes the fact "that science is not and never can be infallible, and we should be thankful for that, for, if it assumed infallibility, the progress of the human mind on the path of truth would cease."⁴⁵ *Hugh Miller's* estimate is that science must be evaluated as much for "its effect on mind . . . and what it has accomplished for the human intellect as what it has done for the comfort of society."⁴⁶

Science as Hypothesis. Thus through its processes of experimentation and orientation science finds its essential spirit in hypothesis. That is, in the attempt to discover knowledge and relationships and to determine laws, science finds the hypothesis its most important approach. Basing tentative conclusions upon

³⁹ *What is Science?* p. 1.

⁴⁰ *Human Traits*, p. 381.

⁴¹ *Inside Experience*, pp. 189-192.

⁴² *The Grammar of Science*, p. 30.

⁴³ *Life and the Student*, p. 155.

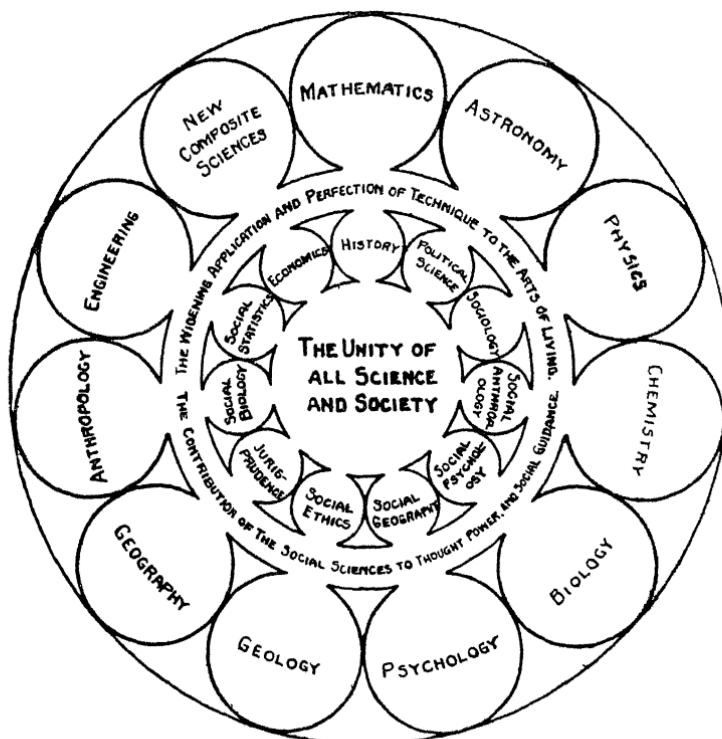
⁴⁴ *What is Science?* p. 27.

⁴⁵ "Scientific Truth and the Scientific Spirit," *Science*, 43, p. 447.

⁴⁶ F. S. Harris and N. I. Butt, *Scientific Research and Human Welfare*, pp. 5-6.

limited examples of experience or observation, science seeks inductivity and deductivity to arrive at more permanent conclusions from many other examples and cases. The working hypothesis will become fact or law when the full measure of the scientific discovery has brought about facts to verify it. It will be discarded when the scientific process, concretely applied, reveals its fallacy.

SCIENCE AND SOCIETY



A TYPE OF ANALOGICAL AND RELATIONAL CONCEPT

Charles H. Cooley reminds us, "It is perhaps not sufficiently understood that nineteen-twentieths of what men of science write, and what the public takes for science, is not such but an overflow of speculative discussion not necessarily less biased

or more grounded than any other matter of the kind. No doubt this has a scientific value in that from the flood of conjecture fruitful hypotheses may emerge, but in the meantime all men should know that it *is* conjecture.”⁴⁷ Again, *Joseph K. Hart*, emphasizing the importance of the hypothetical approach, says, “The moment the scientist thinks of his processes as finalities and of his findings as ‘truth’ he ceases to be a scientist and becomes a theologian. As a matter of history science loses itself in dogmatisms the moment it begins to look for ‘ultimate truth.’ Every such ‘science’ has had to eat its own words, sooner or later.”⁴⁸ *Franklin H. Giddings* thinks there has been an incalculable waste in resources because of the failure to use the true hypothetical query. “A scientific scrutiny of facts and a scientific interpretation of relations are not complete until we have asked the question, as old as human apprehension and desire, as old as curiosity, what else? What else is, or happens? What else was, or happened? What else will be, or will happen?”⁴⁹

Science as Common Sense. This attitude of science to face facts without dogmatism and to work patiently upon hypotheses is after all a part of the higher common sense. So important is this common-sense phase of social research that Chapter XX will be devoted to the consideration of common-sense technique and personnel adaptation in the mastery of scientific social research. And the final criteria of the “scientific-human” method, as presented in Chapter XIX, must include a large element of the common-sense factors involved wherever social relationships are concerned.

Julian Huxley calls science “nothing but *trained and organized* common sense, differing from the latter only as a veteran may differ from a raw recruit: and its methods differ from those of common sense only so far as the guardman’s cut and thrust differ from the manner in which a savage wields his club.”⁵⁰ *Charles A. Ellwood* makes “the starting point of science common sense. Man finds himself in a world which must be understood in order to be controlled. His world of experience is constantly changing from moment to moment. . . . The effort of science is to understand the mechanism through which phenomena take place; that is, all occurrences. Hence, science is the method of solving the more complex problems of experience

⁴⁷ *Life and the Student*, pp. 148–149.

⁴⁸ *Scientific Study of Human Society*, p. 182.

⁴⁹ *Inside Experience*, p. 188.

⁵⁰ *Science and Education*, p. 45.

which man has worked out through his intelligence."⁵¹ And Irwin Edman expresses the same opinion when he says "scientific method is merely common sense made more thorough-going and systematic."⁵²

Science Popularly Interpreted. The catholicity and universality of science are further illustrated by the other many and varied common interpretations current in literature and laboratory. Thus science is accurate *description* and one merit of the objective method is its accuracy of description. One phase of the scientific process commonly neglected is that of description as accurate portraiture of both specific units and of aggregates. And where description includes process as well as static fact it becomes truly scientific. Other common and popular interpretations of science are numerous. Aside from the wholly fallacious concepts and measures of the word, there are many common usages which indicate the importance of clear definition, accurate terminology, and thorough understanding.

Science is held to be perfection of *meticulous detail* or *elaborate documentation*, or *mathematical formula* or a *difficult process*. Science is *natural science*, or pure science, as listed in college catalogues. Science is some *popular norm* or method, or *technique*, such as boxing, business management, advertising or Christian science. Science is being called the *religion* of the modern era, while Cooley hints at the *fetish* idea when he predicts that only a small part of the contemporary speculations of reputable men will be believed a century hence.⁵³ C. E. Ayers calls science *folklore* in that it is "a body of truth verified by repetition and sanctified by faith."⁵⁴ Thus also science is *art* when it becomes applied, and the distinctions between purpose and process become all-important. Science is *logic*, or a special *discipline*, as mathematics, or an *interrelation* of abstract ideas, regardless of meaning.

Science as Pseudo-Science. Perhaps the most common misinterpretation of science comes through what is often termed pseudo-science. This ranges from the false claims of professional folk to commercial advertisements of panaceas. It includes the too-inclusive claims of science, the confusion of science with hypothesis, the confusion of scientific technique with scientific re-

⁵¹ *The Psychology of Human Society*, p. 1.

⁵² *Human Traits*, p. 381.

⁵³ *Life and the Student*, p. 150.

⁵⁴ *Science: The False Messiah*, p. 26.

sults. It includes "wishful thinking" and rationalizations and also the common tendency to assign causal factor for mere relationships, or to confuse participating force with exclusive cause. In other words, pseudo-science includes not only such concepts and practices as are sometimes found in quacks in medicine and psychology, for instance, but also much that is "new" science or past science among authentic groups.

A. d'Abro calls attention to this phase of science-interpretation as "a general line of talk based upon a crude survey of a number of conspicuous facts."⁵⁵ *Cooley* sees pseudo-science in much of the current emphasis on methodology and technical objectivity. "Much would-be social science seeks to dodge the mental and emotional processes in which society consists, to circumvent them, find them superfluous, arrive at social truth without them. This is pseudo-science; in the end it will not work; these phenomena are nature; there is no substitute; if we are to have a science it must advance through them, not around them."⁵⁶ *C. E. Ayers* criticizes the tendency to confuse science and laws. "No law which commands obedience and threatens punishment is a scientific law. Such a thing is the very essence of pseudo-science. We shall never get a clearer definition of pseudo-science than this: whatever represents either science or the forces of nature, as a sheriff's posse waiting to nab us at the crossroads, is quackery and no mistake. Subject matter makes no difference. Authorship makes no difference. If we say that it is a law of mathematics that whosoever says two plus two makes five will be arrested for falsification of accounts, we are nature-fakers. Mathematics says nothing of the kind. The laws of mathematics are just as serviceable to swindlers as to everybody else. It is we who are squeamish, not science."⁵⁷

Science and Art. The common interpretation of art as a certain sort of realization of science—not discovery of facts but art growing out of facts—anticipates our consideration of the basic contributions of the physical sciences to the whole of social development and civilization, which will be treated in Chapter III. Thus science and art may at times become coterminous, as for instance in education, engineering, law, business, psychiatry, social work, where the concrete investigations, after the methods of science, evolve into the larger field of knowledge. This is not to

⁵⁵ *The Development of Scientific Thought*, p. 384.

⁵⁶ *Life and the Student*, p. 154.

⁵⁷ *Science: The False Messiah*, p. 250.

confuse the meanings of the two but to indicate a relationship and interdependence through which both may be better analyzed.

Charles H. Cooley calls attention to the impression that "the idea of a gulf between art and science, as things different in kind, seems to be recent. *Leonardo da Vinci*, with his attainments in mathematics and physics, and being a great painter withal, looks upon all his studies as *science* or branches of knowledge. The basis for our view seems to be that the sciences are cumulative, an imperishable and ever-increasing structure, while the arts bloom and die like flowers. This notion perhaps arose as science was observed to develop a technique of its own, quite different from that of art." And again, "Indeed as processes of mind in the worker science and art are much the same; both occupy themselves with a precise study of facts; in both man seeks to interpret and reconstruct nature after patterns of his own; both, in the pursuit of truth, rise above the tumult of the hour to serene and lasting aims."⁵⁸ *Joseph K. Hart* links science and art as techniques. "No artist or artisan can be sure of his technic, save as he permits it to be subjected to criticism. Science is nothing but the complete release of critical method, though few scientists see science in this light, and most artists take little interest in the matter."⁵⁹

Quarrels with Science. Science is not without its vigorous critics, the ground of which may be understood from the foregoing review of its meanings and applications. Criticisms are often based upon the limited concepts of science or upon the unscientific claims of science, or arise out of the failures of science to achieve comprehensive results commensurate with expectations. Or, criticisms often arise from the plausible desire to see society and its future in terms of a synthetic whole expressed still in terms of the philosophical emphasis. Again, much of the criticism arises from the old conflict between science and religion, and much of it grows out of the challenge to determine and portray the essence of modern social change in terms of spiritual and psychic products and processes. Mother philosophy, therefore, still presumes to criticize and direct *her* sciences and their application to humanity upon the earth, often well supported by the educator, the publicist, the social scientist in action, the social worker and religious leaders.

⁵⁸ *Life and the Student*, pp. 143-148.

⁵⁹ *Inside Experience*, pp. 189-192.

Representative of this critical attitude toward science is the very considerable number of recent volumes on science and about science and the large body of literature appearing in the standard literary magazines. Among the former are such books as those of *Dewey, Hart, Cooley, East, Pearl, Haldane, Wickham, Ayers, Stoddard, Wiggam, Lippmann, Frank, Dinsmore*, and others.⁶⁰ Of the literary magazines the *Atlantic Monthly* and *Harpers* for a twelve-month period might well illustrate. In the *Atlantic*, for instance, *Joseph Wood Krutch* in "The Modern Temper" challenges science to show why the human spirit is not due extinction "or a readjustment more stupendous than any before." In "The Paradox of Humanism," he envisages the conflict between human values and looks at the possible spectacle of science's growing achievement as blowing humanity into bits. Also, in "Disillusion with the Laboratory," he inquires as to what shall follow the age of science with its partial failures. *A. E. Douglass* in "Two Sciences" sees in the two great sciences of astronomy and evolution the bridging of human destinies. *Paul F. Laubenstein* in "The Modern Well-Tempered Mind" challenges the new dogmatism of science. *Robert A. Millikan* in "Science and Modern Life" thinks scientific research and education are the two supreme tasks of civilization.⁶¹ In *Harper's Magazine*, for the same period, *J. B. S. Haldane* in "The Last Judgment" ventures, as he does in many other papers, into fantastic prophecies of science. *George Draper* in "Science, Art, and the Patient" challenges medicine to solve the final and highest problems of existence. *Geoffrey Parsons* in "Black Science" suggests that the worship of reason has transformed "science from a noble labor to a dangerous magic." *John B. Watson* in "The Heart or the Intellect" prophesies a mechanistic science for the larger control of all individual behavior. *George Ellery Hale* in "Science and the Wealth of Nations" pleads for better endowment of science on the ground that "The pure scientists are the advance guard of civilization." *James Truslow Adams* in "Is Science a Blind Alley?" doubts whether science will always be the sole interpreter of life.⁶²

A Fourfold Consistency in Science. Finally, if we seek consistency and unity in the varied interpretations of science there is apparent a fourfold meaning which illuminates the whole concept and application of modern science. There is, first, the *science of*

⁶⁰ See the extended bibliography for details of these references.

⁶¹ *Atlantic Monthly*, February, October, December, 1927, February, March, April, 1928.

⁶² *Harper's Magazine*, March, February, June, September, 1927, January, February, 1928.

fact and truth, as distinguished from error. There is, in the second place, the science of *method and technique*. On the one hand, there is the generic method of all science—observation, deduction, induction, measurement, objectivity, classification, analysis, comparison, interpretation, and on the other hand, the multiplicity of special “methods” and “techniques” which apply to the varied sciences and their projects of research. There is, in the third place, *science as unity and purpose with life and society*—unity of the physical and social sciences and unity of all with law and development inseparable. There is, finally, *science as attitude of mind and spirit of approach* which, after all, is the essential key to the modern scientific program. There are many who distinguish between the present scientific era and earlier periods by characterizing the present as an era in which the spirit and methods of science prevail whereas in other days the science of fact was dominant. Such an era, they believe, will be able to master the utilization of truth as well as its discovery. In these four measuring standards will be found not only essential common threads in the fabric of science, but also indices through which real science and scientific endeavor may be distinguished from pseudo-science, on the one hand, and from other notable phases of the human search, such as philosophy, religion, art, and magic, on the other.

Developing the Scientific Program. This volume is concerned primarily with the last three phases of the scientific concept with the major emphasis upon the inclusive concept of method, and assuming the science of fact and truth to be the essential groundwork of any scientific program. A further fundamental assumption is that there is a consistency and unity of method and program in all scientific endeavor, whether in the physical sciences or social sciences. This generic method must run through the whole scientific program and find itself gradually extended to include the principles involved in the scientific attitude. Methodology, therefore, in this volume will be comprehensive. It will include general scientific method, specific methods and techniques,⁶³ historical and disciplinary approaches, the range and objectives of

⁶³ The distinctions between “method” and “technique” are perhaps best illustrated in the historical method where the “technique of historical investigation,” may be contrasted with the “historical method” involved in inductive historical “science.” See Chapter XIV.

the scientific program, and something of the spirit of science as well. In the matter of the spirit and attitude of science the special emphasis is upon the mastery of the human factors and limitations in the modern scientific program and the development of a "scientific" epoch in which the spirit of science will first master the approach to social research before final techniques may be discovered and developed. The inclusive process and the key technique in this preliminary approach to the larger scientific program are found in research, which becomes for the time being coterminous with science and the methods of science. The next step, therefore, is a treatment of research and the methods of science, preliminary to the subsequent development of the special theme of social research.

CHAPTER II

THE METHODS OF SCIENCE AND RESEARCH

Scientific Method and Methods in the Social Sciences. The essential task involved in the promotion of modern social science is that of the continuity and development of its fourfold objectives of truth, method, unity, and spirit, as designated in Chapter I. The two major problems within this larger task of development are those of evolving and perfecting adequate methods and of mastering the human elements involved in both the search for social truth and its extension to the social realm. The major portion of this book is devoted to the problem of general methodology, the range of which, however, includes the human factors inseparably interwoven with methodology in the final concept of the "scientific-human" method. The general problem of methodology also involves the important distinctions between *scientific method* and the *methods of science*, and between the methods of the physical sciences and the social sciences. By the *scientific method* we may mean one of two things. It may be the generic method and spirit of all science, the "scientific way" of doing a thing. This is essentially an attitude of mind, a facility and habituation in intellectual orientation, coupled with the essential principles and practices of science. These include the fundamental processes of description, induction, deduction, to be utilized wholly or in part in accordance with the nature of the problem; and the essential stages of definition and hypothesis, enumeration and measurement, analysis and interpretation. Or *scientific method* may refer to a body of organized knowledge developed around methodology, as mathematics or statistics. Thus *method* is different from *methods* which in turn may refer to the scores of concrete "methods" and "techniques" developed around special sciences and projects of scientific research; to the general types of "approach" and "methods" in the study of society, such as the sociological or economic; and to the specific mechanical tools of research. Again, the methods of social research may revolve around the social dis-

ciples which in turn are evolving from the older analogical and philosophical methods to the more modern scientific-objective, within which there may be any number of techniques. There is, therefore, a *general* meaning of the term method which, however, is in no way antagonistic to or inconsistent with the special meaning. The first assumption in all our considerations of the scientific program of the social sciences is that of the universal scientific method. From this point on the study of the *methods* of the social sciences includes their whole range and objectives and the several types of "approach" and "method" peculiar to the social sciences. These include the *philosophical*, the general *analogical*, the *biological*, the *psychological*, the *anthropological*, the *politico-juristic*, the *economic*, the *sociological*, and the *historical* "approaches"; and the *historical*, the *case*, the *survey*, the *experimental*, and the *statistical* "methods," which, again, may develop many techniques and comprehend the whole of the *scientific method*. If, finally, there is any all-inclusive larger "technique" through which the *scientific method* and the *methods of science* may function in a really comprehensive "scientific-human" attack, it is that of scientific social research. Here research becomes the chief mode of the social, as well as of the physical, science program.

It is pointed out elsewhere, and the theme developed through illustration and discussion, that the use of the terms "approach," "methods," and "techniques" are necessarily approximate. And while the distinctions may be made quite clear in concept and theory, in actual treatment there is sometimes overlapping and synonymous usage. In general, "approach" is the all-inclusive characterization used partly for the purposes of analysis and introduction; "method" implies the more specialized, integrated and unified plan of procedure; while "techniques" refer to the still more concrete and perfected mechanisms and devices of attack. Here again, however, it must be urged that no exact meaning to these and other similar terms is yet possible. Thus if we use the term "technique" in the larger sense of social research, it still means a more concrete device and mechanism than are involved in the concept "social science," and there is no inconsistency in this usage as opposed to that of many specialized "techniques" within the whole field of research itself. So, too, the use of the word "method" in the chapters dealing with the *case*, the *survey*, the *experimental*, the *historical* and the *statistical*, is both a general term and a special one in that it refers to the present status of these "specialized, integrated and unified

plans." In reality they are "methods." Other variations of the term method and its many subdivisions throughout the book must be considered approximate in that they are rather hypothetical "settings" which in turn must be analyzed and examined critically.

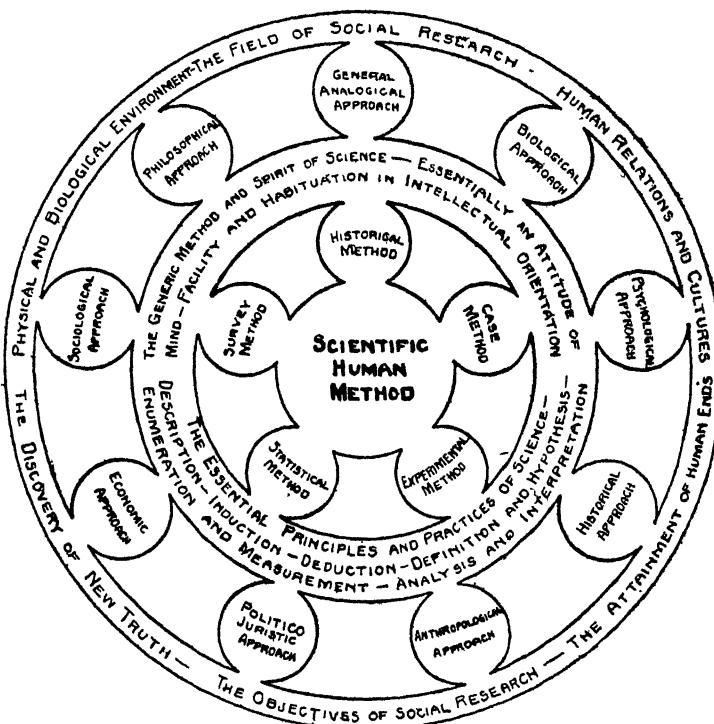
The Case Book on Scientific Method in the Social Sciences. Once again, however, the effectiveness of research is inseparably bound up with that of method; scientific research manifestly must be dependent upon scientific method, which in turn is still a matter of approximate standards. It happens therefore that much of the present-day enthusiasm and activities in the social sciences is centered around the discussion and development of methodology, with a corresponding caution on the part of many to see that "method" shall not be the chief objective of social science. On the one side are those "who believe that it is not only profitable to study the problems of scientific method directly but that this study is essential for variety and effectiveness of research attack; on the other side . . . those who regard such study as the harmless amusement of those whose research sinews are too feeble to support more vigorous efforts."¹ Continuing its policy of developing the social sciences and of seeking to raise standards of scientific social research, the Social Science Research Council in 1926 authorized its committee on Scientific Methods to prepare a *Case Book on Scientific Method in the Social Sciences*. Stuart Rice who is in charge of completing this epochal undertaking indicates one of the difficulties involved when he says that "it was ultimately discovered not only that no precise and uniform meaning is given to 'method' in ordinary usage among social scientists, but that no such meaning could be given it for the purpose of the present investigation. There were those who held that 'method' should refer to techniques of investigation. . . . At the other extreme were those who regarded 'method' as indistinguishable from the concepts and assumptions bound up in the formulation of a problem. . . . Between these extremes of interpretation were numerous other versions of 'method' which can not even be mentioned in the present brief summary."² Thus the investigators

¹ See the *Annual Report of The Social Science Research Council, 1927-1928*, p. 30.

² "Case Analysis of Scientific Methods Employed in Contributions to Social Science," paper read at the Twenty-third Annual Meeting of the American Sociological Society, December 28, 1928. From the viewpoint of the present *Intro-*

determined to regard "method" "realistically as a term of variable usage, and to comprise within their study illustrations drawn from various modal points along the hypothetical scale of meaning."

UNITY AND INTERRELATION IN METHODS OF SOCIAL RESEARCH



A TYPE OF ANALOGICAL AND RELATIONAL CONCEPT

The range and meaning of "method" may be illustrated further by the types of analyses which are being undertaken in the Case Book. One part, for instance deals primarily with analyses in which the *technical meaning of method* is prominent, such as those involving observation, testimony, the interview as a means of

duction to Social Research such "variable usage" appears to be advantageous in that there is likely to appear more critical analyses and more points of attack. The larger the number of analyses, provided their limitations and objectives are recognized, the more opportunity will there be for a later synthesis.

fact-finding; and those relating to *experimentation in social science*. Another part deals with analyses in which the *logical meaning of method* is prominent, such as those portraying inferences from statistical and case data. Still another part deals with analyses in which the *conceptual meaning of method* is prominent, such as *sociological* analyses relating to general problems of social existence and social change; *historical* analyses showing the influence of various concepts upon the direction and scope of historical study; *psychological* analyses; showing various conceptions of the nature of the psychological fact; *anthropological* analyses, exhibiting relationships between concepts and techniques in anthropological research; *economic analyses*, concerned with concepts, hypotheses and verifications in economic science; analyses concerned with concepts of *politics*; analyses exhibiting changing concepts in the field of *legal scholarship*; and analyses based upon new concepts in the field of *human geography*.³ Included in the various types are some three score analyses made by almost an equal number of specialists from a widely selected group of studies and publications in the several social sciences.

Scientific Research as Scientific Method. In somewhat the same way, therefore, in which "science" has often been interpreted as identical with "method," so social science will find some of its best interpretations in identity with its methodology. And more specifically, continuing our introduction to the whole concept and process of social research, scientific method will often become identified with scientific research, with variations in concepts and assumptions contributing to clearer analyses of differences. There is, of course, to begin with, that composite general scientific method, to which we have already referred, which is applicable to all scientific research regardless of details of concrete methodology. It is, as it were, a sort of research constant in the midst of any number of variables in detailed techniques and "methods." Thus, the history of scientific research, in whatever fields, shows great diversity, especially in different physical laboratories and different "schools" of thought and study, and in the different groups and individuals among the social scientists who question the methods and methodology of other groups. And yet it is always assumed that a certain spirit, atmosphere, and "method" may be recognized in all really scientific research. If it is the function of social research to find out about the whole social process it must be evident

³ From topical outlines, quoted by permission.

that the search for *new* truth will be a major task. New truth in turn will include new data, not only in fields already investigated, but in other fields to be discovered. But equally important in social research is the task of initiative and inventiveness in the discovery and utilization of new techniques and methods.

This is the import of *Karl Pearson's* dictum that the unity of all science lies in method and of *Wesley C. Mitchell's* concept of method as a way of doing things, the best definitions of which are found in illustration. *Lester F. Ward* emphasized this general meaning of method years ago. Science, he held, "whether it relates to the law of gravitation, to the nature of sound, to spectrum analysis, to the different kinds of rays, to the properties of the various substances and gases, to the formation of chemical compounds, including the complex organic compounds, to the study of protoplasm, to the investigation of cells and unicellular organisms, to the origin of tissues and their distribution in the metazoan body, to the phenomena of reproduction, to the nature and functions of nerves and of the brain,—wherever the field may be, the general method of all earnest scientific research is the same. Every investigator chooses some special line and pushes his researches forward along that line as far as his facilities and his powers will permit. If he is a master, he soon exhausts the resources and appliances of the library and laboratory and proceeds to construct a technique of his own for his special purposes. He observes and experiments and records the results. Whenever important results are reached, he publishes them. He not only publishes the results, but he describes his methods. He tells the world not only what he has found, but how he found it."⁴

Deduction and Induction. It has been customary, however, to discuss the "methods" of science in terms of certain definite processes and stages, the most common processes of which are deduction and induction. Thus, Aristotle was said to have founded science and the scientific method in his deductive logic which he set forth for the purpose of technical procedure in the discovery and formulation of new truths. And much later Bacon was said to have inaugurated the scientific method when he introduced the inductive method as the general method of science. The essentials of Bacon's "induction from empirical particulars" were that the data must be gathered from the exhaustive study of many individual cases, must be analyzed and compared and the essence of form

⁴ *Pure Sociology*, pp. 8-9.

26 THE METHODS OF SCIENCE AND RESEARCH

of the phenomenon must be learned. The truth of the matter is that neither induction nor deduction alone is adequate but that the two separately and with their combined use represent a major part of the total method of science.

Galileo rejected formal logic except as primarily a corrective of thought. New truth, on the other hand, was to be discovered through hypothesis made up from certain experiences. "The hypothesis is first formed by induction from a few characteristic cases; the inference to other cases is made by deduction. He therefore linked induction and deduction closely together, and conceived them as necessarily complementary in scientific investigation. Either induction or deduction alone is absurd and impossible. By induction alone we should be obliged to examine all cases, an impossible undertaking. By deduction alone we should be in the same straits as the Scholastics, and never discover new laws."⁵ Robert E. Chaddock in discussing the methods of statistics emphasizes the same points. "We wish to emphasize that induction and deduction are intimate parts of a complete system of investigation of facts and thinking about facts. The one cannot be separated from the other without marring both. The deductive processes are really only the reverse of the inductive. We arrive at a generalization from particular cases observed, analyzed and compared; we start with an established generalization as our hypothesis and reason to the particular applications which must agree with the facts of experience if the original hypothesis is true—the former is induction, the latter is deduction. Both processes go forward together in scientific work."⁶

Scientific Method as "Steps" or Phases in the Research Process. Another common way of describing the scientific method is in terms of steps, stages, variations, in which there is agreement concerning general methodology, but wide divergence in the special terminology of different exponents of particular procedure. In more exact terms this is a definition in terms of procedure and process. Thus there is general agreement that any scientific "method" must provide for certain minimum essentials—a comprehensive plan, delimitation of the field, technique for gathering data, classification and analysis, and procedure for interpretation and presentation of results.

⁵ H. E. Cushman, *A Beginner's History of Philosophy*, II, 37.

⁶ *Principles and Methods of Statistics*, p. 26.

Floyd N. House lists three chief phases of procedure: A generalized description, a classification, and a formulation of concepts and hypothesis.⁷ *F. Stuart Chapin* enumerates four principal steps, which he assumes will also take care of ample variations. These steps include the formulation of a working hypothesis, the collection and recording of facts, the classification of facts, and generalization from facts.⁸ *Eduard C. Lindeman* refers to the traditional methods of the social sciences: Reference to the past, comparison and reasoning with the common tools of history, analogy, and logic.⁹ *Albion W. Small* enumerated four phases of the scientific process: The descriptive, the analytical, the evaluative and the constructive.¹⁰ *Hornell Hart* names five steps in scientific investigation: Definition, classification, measurement, enumeration, and correlation.¹¹ It is easily observed that the development of all physical science follows orderly stages—the accumulation of experimental and observational facts, their co-ordination into a consistent whole, and the evolving therefrom of a “coherent doctrine or science.”¹²

The Physical and Social Sciences. While this volume assumes the general elementary concepts of scientific method and research, regardless of the nature of the research project, there are certain peculiar characteristics of the social sciences which must be kept in mind in the development of a comprehensive methodology. Some of these are analyzed in subsequent chapters dealing with the physical and social sciences and with various types of approach and method. Social research, again, involves the general telic implications of all scientific method as well as its own science of social relations. And again, certain differences and relationships between the physical sciences and the social sciences, discussed more fully in Chapters III, XIX, and XXIV, will constitute a peculiar problem of method.¹³

⁷ *The Range of Social Theory*, ch. xxxvi.

⁸ “Progress in Methods of Inquiry and Research in the Social and Economic Sciences,” *Scientific Monthly*, 19, pp. 390-399.

⁹ *Social Discovery*, pp. 31-33.

¹⁰ *The Meaning of Social Science*, p. 185.

¹¹ “Science and Sociology” *American Journal of Sociology*, XXVII, 368.

¹² A. d’Abro, *The Evolution of Scientific Thought*.

¹³ It is an interesting commentary upon the claim that the physical sciences are valid in proportion as they have no practical purpose in view, that the National Research Council, the peculiar organization for promoting research in the physical sciences, should have been organized for the concrete purpose of helping the United States win the Great War, and should have continued in a wide range of coördinating research and the extension of science.

C. Judson Herrick, speaking for the physical sciences, thinks that the control of natural forces is the final achievement of science. By control he does not mean the upsetting of laws, but conforming behavior to laws. Thus the application of the scientific method to natural phenomena involves three great processes: "First, finding out as much as possible about natural things, how they are constructed and how they work. They operate according to rule and when we have learned these rules we have formulated the laws of nature. Second, the prediction of future events is possible as soon as we have learned the uniformities of natural processes, that is, the laws of nature. Third, some measure of control of the future course of events is possible when the two steps just mentioned have been taken."¹⁴ This similarity between the physical sciences and the social sciences in the "control" element goes hand in hand also with fundamental unity and generic method. Alongside the unity and interrelationships are also important differences in method, due to differences in data and controlled experiment which we must discuss later in connection with the whole program of social research. Speaking from one angle of the social sciences, *L. L. Thurstone* finds the key problem of method one of relationship between two variables, and sets up eight stages in the solution of a scientific problem. First, there is a felt social need; second, the phrasing of that need in terms of the effect of "A" upon "B"; third, the definitions of "A" and "B"; fourth, the adoption of a unit of measurement; fifth, an experimental arrangement for paired observations; sixth, the statistical analysis of these observations; seventh, the interpretation; and eighth, "the formulation of more problems which arise from doubts in the interpretations and from which the cycle repeats itself."¹⁵

Research the Chief Mode of Science. Thus the working out of a scientific problem is reduced to the process of scientific research, and the methods of solving the problem become the methods of research.¹⁶ We come naturally then to look for the integration and coördination of the general and specific methods of scientific inquiry in the all-inclusive general technique of scientific research. For if science be interpreted as the chief tool of the human search for knowledge and mastery, research may be accorded the place of the chief process and technique of science. It is the medium through which science works and reinforces the world with new

¹⁴ "Behavior and Mechanism," *Social Forces*, VII, 2.

¹⁵ *American Political Science Review*, XIX, 112.

¹⁶ Much of the same lack of preciseness of meaning is evident in the usage of the term "research" as has been evident in the case of "science" and of "method."

truths. Like science, research has achieved a key place in the whole culture process of modern society. And like science, it has come to have so many meanings and interpretations and so many and diverse applications, with consequent over-popularization, that the problem of knowing how to make accurate appraisals, distinctions, and ample qualifications becomes a basic one. It is at once clear that research is not limited to any field or to any types of material, but extends to the whole domain of science and its applications. As the physical sciences have developed to such proportions as to give substance and direction to modern civilization and to challenge the social sciences, so the original scope of scientific research has extended into all branches of knowledge and its practical uses. Again, like science, the elements of pure research often appear lost in the products of application. K. T. Compton thus reminds us of the fact that while purely scientific research, absolutely basic to invention and development, is usually carried on at a personal sacrifice, "industrial research is coming more and more to be looked upon as shrewd business policy."¹⁷ And just as, in the past, science has been the basis of most of our modern civilization, he thinks that now "the degree to which we support research should count heavily in estimating our degree of civilization." And William McDonald goes so far as to say that "the supreme test of the intellectual life of a community is the importance which it attaches to research."¹⁸ Research, then, becomes the chief mode of science and is in some respects coterminous with the whole field and method of scientific extension.

Oswald Spengler, having in mind *truths* of nature and *facts* of history, holds that "scientific research is science and only science. In virtue of its technical origin and purpose it sets out to find data and laws of the causal sort and nothing else;"¹⁹ thus reaching up to a final or superlative truth. Again, like *Karl Pearson's* emphasis upon the universality of science was *G. Stanley Hall's* research as a "University invisible, composed of all those everywhere who are smitten with the passion of adding something to the sum of the world's knowledge."²⁰ The prime duty of the modern era to Dr. Hall was to foster original research which

¹⁷ "Specialization and Co-operation in Scientific Research," *Science*, 66, p. 436.

¹⁸ "The Intellectual Worker," *Science*, 63, p. 317.

¹⁹ *The Decline of the West*, Vol. I.

²⁰ *Life and Confessions of a Psychologist*, p. 542.

"inspires men to seclude themselves in laboratories, museums, studies, libraries . . . remote and dangerous corners of the earth . . . to observe, collect, excavate, decipher, construct." Nevertheless, research may be its own reward. For the joy of scientific discovery men have surrendered the comforts of home, rejected opportunities of wealth, risked and lost their lives.

Social Study, Theory, and Scientific Research. It is important to note certain distinctions between social study and social theory, on the one hand, and scientific social research, on the other. For there are marked differences between theoretical reasoning and objective observation. Many brilliant experimenters show little theorizing ability and many able thinkers are poor in observational ability. Quantitatively, to the present time, the range of social study and theory has been far more significant than that of social research. And, while it is possible for the whole field of general social study and social theory to become objectives for social research in the modern scientific sense, such has not been the case in the past. Indeed, perhaps the most marked single characteristic of development of each of the social sciences has been its evolution from the general emphasis of social study, theory, and philosophy to the present decided trend toward scientific social research. Some of the research is even being directed into the study of past theories and efforts. The fact is that the approach to the modern problems and methods of social research must first be made through the maze of past and contemporary social study and theory. Social research is social study and may well lead to sound social theory, but social study does not necessarily imply the methods of scientific research.

*Pitirim Sorokin*²¹ lists more than a thousand authors and writers in his synthetic study of society. An examination of their theories, a classification of which may be examined further in Chapter XIV, shows both the extent to which such students of society have and have not utilized the methods of philosophy, deductive generalizations, and rationalization, on the one hand, and scientific research, on the other. Certainly only a small proportion of that great list utilized the scientific method and yet all are important to the student who aspires to know the range of man's effort to explain society in whatever terms. *Floyd N. House* makes his classification include almost two score units through which he interprets the past and recent attempts to explain human society. And one of the merits of his treatment is the

²¹ *Contemporary Sociological Theories*.

clear recognition, as he develops his themes historically, of the increasing importance of scientific research. Similar classifications of economists, political scientists, historians, and other social scientists might be presented, but that of House, which follows, is ample for illustration: Man and Environment; Theories of Population; Race and Nationality; The Movements of Population; Natural Areas and Territorial Groups; The Study of the Community; Competition and Division of Labor; Commerce and the Market; The Original Nature of Man; The Individual and the Primary Group; Habit and Custom; The Social Personality; Mobility and Individuality; The Theory of Social Forces; Social Movements; Religion; Religion and Morals; Culture, Art, and Education; Culture and Social Organization; Contact and Assimilation; Conflict and Disorganization; Conventionality and Fashion; Recreation; The Process of Cultural Change; The Social Struggle; Commerce and the Competition of Nations; Industrialization; Legislation and Public Opinion; Civil and Criminal Law; Revolution and Reform; The Geography of Politics; Social Politics; The Politics of Industry; The Evolution of Government.²²

The Reach and Scope of Research. What, then, more concretely, constitutes research and what goes to make *scientific* research in accordance with academic and practical standards? Are these legitimate objectives: Inquiring into dimensional relativity, making pictures of electrons, surveying a community, counting Indians on a reservation, taking a census of Negro tenant farmers, the counting of Anglo-Saxon verbs, searching out origins and influences of Shakespeare's lines, or Helmholtz's recommendation for research into things spiritual? It should be self-evident that the mere collecting of facts or the abstracting of vast quantities of literature without plan, analysis, or interpretation is in no sense scientific research. Thus we come to the necessity of interpreting the general meaning and "atmosphere" of research, and to the necessity of finding consistency and unity in great diversity, just as we did in the study of the meaning of science in the present time.²³ Much effective interpretation must come through illustration and synthesis.

²² *The Range of Social Theory.*

²³ Thus, the purpose of social research may be stated as seeking to find out all about human beings as human society. Such a range will require great inventiveness. In further discussions of the larger meaning of research in other chapters and especially in Chapter XXIV some of the implications and functions of group research, as contrasted with individual research, will be noted. See also Francis Lieber, *Manual of Political Ethics*, ch. i.

A simple exercise for indicating the scope and reach of research may be found in the examination of a vast number of research projects, already completed or being made and planned. Through such an exercise, it becomes evident again that it is not possible to delimit the field any more than it is to limit the subject matter of science. Research becomes a matter of science, of atmosphere, and of method. One exercise may be made from 150 *Popular Research Narratives*, emphasizing largely the physical sciences, collected by the Engineering Foundation, samplings from which will indicate concretely the nature and field of a modern research program: The Hydrophone or Hydropelorus, Measuring the Flow of Water, The Haunted Restaurant, Safe Explosives, The Geophone, Humus from Garbage, Measuring Water with Salt and Electricity, The Sonic Depth Finder, A New Radio Antenna, Concrete-Boring Molluscs, Combating Mosquitoes by Means of Fishes, Human Motion Study, Supremacy of Artificial Light, An Electron Gun, Lake Baskunchak Salt, Old Nick's Own Metal and others. The list of 150 projects cited is largely of physical research, and similar samplings from hundreds of other lists might be selected from the fields of physics, chemistry, mathematics, astronomy, engineering, psychology, and many of the newer composite and applied sciences like aeronautics. Samplings from the *social sciences* may be studied in the later chapters or in exercises based upon research projects in the fields of history, economics, sociology, anthropology, statistics, social psychology, political science. Types of social research projects will be suggested especially in the subsequent treatment of the "range of social research," in certain composite fields like regional social research, rural social research, research into such problems as race, the family, war, population, and others which manifestly require the best that the methods of all the social sciences can afford.

General Concepts of Research. Modern research is being extended so rapidly that, again like science, it is sometimes over-popularized and badly used. Research becomes a name, a slogan, a shibboleth. And there is constant need for upholding standards. In the midst of its wide application to every activity, there is need to keep in mind fundamental concepts and to maintain the essential meanings and methods of scientific research. It is as important to have high standards for "applied" research as for "pure" research. And, in any review of the hundreds of types and applications of research, impossible of formal definition throughout all its specialization, it is important to keep in mind the single thread of scientific method and the still greater quality of research "atmosphere."

Albion W. Small defined research "in plain English at its lowest terms as merely trying to find out things."²⁴ On the other hand, it is sometimes defined as a very careful, very logical, extremely critical phase of our intellectual search for information about our surroundings. *E. R. Rose's* characterization as "organized effort to acquire knowledge about natural phenomena" gives research a specialized sweep.²⁵ Emphasizing the original factor of curiosity, a group of university specialists has described research as "the employment of human curiosity for the purpose of enlarging the field of human knowledge in the interest of human progress."²⁶ In a somewhat similar fashion *John C. Merriam* defines research as "a reaching out to bring together, organize, and interpret whatever may be added to our store of knowledge . . . most truly exemplified when it involves the wider relationship of specific facts to the whole structure of knowledge."²⁷ *K. T. Compton* again sees research as inclusive. "If one develops the mental traits of ability to think clearly and independently, to organize all available mental resources, to direct his best efforts for the purpose of solving problems and meeting difficult situations and focuses these on some problem—this is research."²⁸ *E. R. Rose* adds the mental quality. "Research is a mental process superimposed upon the observation of facts. It is mechanical as well as rational. Research is such an honest effort to achieve something of value that we are apt to condone the futility because of the good intention,—or we may err the other way and condone what is intangible because we can not measure its use."²⁹ Another aspect is presented by *Walter Gutman* when he refers to scholarship as "a game in which a trained sensibility is pitted against the enigma of the past, and it is the spirit of the game, rather than the result, that is important."³⁰

"Pure" Research. In somewhat the same way in which science has been labelled "pure" and "applied," so in its elements at least research may be similarly classified. "Scientific research includes investigations of both the 'pure' and 'applied' kinds—different aspects of the same endeavor."³¹ It is clear that the "practical"

²⁴ "Some Researches into Research," *Journal of Applied Sociology*, IX, 3-11.

²⁵ "Research," *Science*, 66, p. 117.

²⁶ University of Chicago, *The Quest for Truth*, p. 1.

²⁷ "Common Aims of Culture and Research in the University," *Science*, 56, p. 264.

²⁸ "Specialization and Co-operation in Scientific Research," *Science*, 66, p. 435.

²⁹ "Research," *Science*, 66, p. 117.

³⁰ Reviewing Berenson's "Three Essays in Method," *The Nation*, 126, p. 149.

³¹ B. E. Livingston, "Relations of the American Association to the National Academy," *Science*, 66, p. 493.

research and the "pure" research can no longer be entirely divorced. Such a classification has in mind more the spirit and purpose of research than its content and applications. For after all, the eminent physicist, working in a college laboratory, may subsequently find the results of his researches, duly developed and applied by others, transforming the illuminating modes of the whole world. Nevertheless, too much emphasis cannot be placed upon the essential spirit of scientific research as such.

With all the effectiveness of modern organized research there are many who, like *G. Stanley Hall*, urge us not to forget that the true spirit of research can never and should never be completely organized. "The highest and strongest motive that seems to have underlain much of the best research in all its brilliant chapters is the pure love of truth for its own sake. Many of the greatest discoveries have lain dormant for decades before they found any application, and to the latter their authors were often indifferent."³² That is, in "pure" research there need be no thought for the morrow—only the two essential steps of attacking the problem and applying scholarly methods, while in practical research the problem is localized within practice and the ends again applied to the improvement of practice.

Applied Research. Pure research is, however, difficult to evaluate solely for its own sake, however important it may be. Robert A. Millikan has emphasized its importance by saying that "applied science itself will dry up unless we maintain the sources of pure science,"³³ and Winterton C. Curtis has called attention to the fact that pure research in the past "has often yielded results undreamed of at its inception" and that knowledge of natural phenomena "is worth more than it costs to discover."³⁴ Thus those who commend applied research are constantly urging the importance of the unity of scientific research in all branches of endeavor, and of conveying to the lay world the immeasurable value of pure research.

There are differences, however, of great importance between the two types of research. *Richard Gregory* reminds us that most investigators are so absorbed in their researches that they are worth little in their application,³⁵ and *W. W. Charters* that

³² "University Research," *Pedagogical Seminary*, 24, p. 110.

³³ "The Practical Value of Pure Science," *Science*, 59, p. 7.

³⁴ *Science and Human Affairs*, p. 245.

³⁵ "Message of Science," *Science*, 54, pp. 447-456.

the pure research worker must make his solution perfect in itself.³⁶ *Michael I. Pupin* makes the clear distinction between the man who "displays a burning desire to see more and more of the eternal truth" and one who "stops on the way to find its practical application."³⁷ We have already referred to *Charters'* statement of pure research as consisting of the selection of a problem and the discovery of a scholarly treatment. In practical research he finds five steps. (1) *A going concern is studied*, measurements made, and points of weakness discovered. (2) Some one of these weaknesses is *selected* for investigation. (3) Then follows solution in the *laboratory*. (4) This is succeeded by the step of *installation* in which modifications must be made so that the solution will work in practice. (5) Finally, the solution must be *maintained* by placing it into the organization so that it will become a permanent part of the system.³⁸ Thus the independence of applied research is somewhat curtailed by its nature and objectives.

Research Specialization. The whole field of research itself is further varied with reference to its nature and functions. Next to pure research for its own sake, an important function often assigned to scientific research is that of its educational value and intellectual discipline. Its application then ranges widely from educational technique and problems to industrial development and other specializations. Technical research has assumed professional status of considerable proportions, and everywhere research has come to share a larger place in medicine, law, education, social work, business, and other professions. Not only are academic institutions increasing their emphasis upon research, but an increasingly large number of agencies and institutes are developing an effective field and method for technical research in many fields. And attached to all sorts of institutions, commercial programs, religious organizations, manufacturing associations, and many others are well organized efforts toward effective research.

G. Stanley Hall thought that research better than anything else satisfies higher education's demand for generating enthusiasm in youth and for developing intellectual calibre. "There is something about the gratification of intellectual curiosity

³⁶ "Pure Research and Practical Research," *Journal of Educational Research*, XII, 96-101.

³⁷ "The Meaning of Scientific Research," *Science*, 61, p. 27.

³⁸ "Pure Research and Practical Research," *Journal of Educational Research*, XII, 96-101.

which some people think knits the brain up into a closer unity than anything else.”³⁹ So also *A. J. Carlson* thinks training and practice in research will make the scientific method a part of the behavior mechanism. He urges research as a fundamental process. “We hear so often that ‘this is the age of science,’ and the stereotyped dictum is usually followed by the evidence in the form of enumeration of the striking list of modern scientific discoveries and practical inventions. These achievements of the few have added to the conveniences of the many, but has society thereby achieved greater sanity? Look at the so-called civilized world about you! Scientific knowledge has increased a thousandfold, but we are yet looking for the dawn of scientific understanding in society. The very name science is being perverted to serve superstition, fakery, and fraud. The results of scientific research may fill the bystander with awe, just as primitive man stood in awe before the eclipse, the earthquake, the lightning, the rainbow, and the phosphorescent sea, but awe does not kindle the cool light of reason.”⁴⁰ *E. R. Rose* names four main types of research: *Academic, institutional, industrial, and professional.*⁴¹ The academic is represented by college and university research done by professors and students and typified to considerable extent by the doctoral dissertation. The institutional is represented by specialists working under particular research agencies and auspices such as the Rockefeller Foundation, the Carnegie Corporation, Bureaus of Municipal Research, and various other special research agencies and institutes. Industrial research is defined as all research paid for by owners of industries of whatever sort, while professional research includes the notable efforts of physician, clinician, lawyer, and other professional workers whose laboratories are their fields of endeavor. In all of these specialized phases of research there may be found, of course, varying degrees of the pure and applied emphasis. Even the industrial research specialist and the institutional worker, paid special salaries for research endeavors, find much of their natural emphasis at times upon the search for the search’s sake.

General Varieties of Research. Further general classification of research may be almost unlimited and may serve to interpret its range and meaning, as well as its limitations and extension. Whether we consider research as co-terminous with the scientific search for truth, as scientific method, as pure or applied research, as academic, institutional, industrial, or professional, there may

³⁹ “University Research,” *Pedagogical Seminary*, 24, p. 110.

⁴⁰ Research as a Method of Education, *Science*, 65, p. 128.

⁴¹ “Research,” *Science*, 66, p. 118.

be manifold classifications within each of these, "research differing from research as one star differs from another in glory," to quote Professor Albion W. Small, who ventured into an interesting "research into research," largely from the critical viewpoint.

Small's first type was *naïve research*, which he suggested was based upon glorified curiosity, ranging, of course from the simplest to most complex, from tasting apples to basic discoveries for circling the globe. There is *Socratic* or *Dialectic* research based upon studies and relationships which come from previously formed conceptions within the mind. Whether or not this is scientific it must be admitted that much "research" arises from this base. The third type he called *pedantic research* "the expenditure of enviable ingenuity upon things that don't matter." Professor Small thought of a former professor who carried on interminable researches to discover exactly when Plato was born.⁴² There was, then, *partisan research*, based upon assumed indisputable already fixed standards of measurement. Another type was described as *Pickwickian* or *curio-hunting research*, based upon the mere collecting process of exhaustive search. The final characterization of research was designated as *practice research*, such as that in the university doctor's degree, which is really the first of a wide range of research types worthy of the characterization of "scientific."⁴³

Research and the Methods of Science. If research is to develop adequately as the all-inclusive "technique" of science, it is clear that it must be *scientific* research, embodying the essential spirit and methods of science and well supported by trained specialists, financial resources, and institutional organizations. Details of these aspects will be presented in subsequent chapters on the range of social research and in parts of many chapters dealing with methods, approach, personnel and tools, and common-sense technique. There is much to indicate a rapid and lasting development, the events of the decade since the World War justifying a reasonable confidence. On the one hand, the decade began with renewed enthusiasm for research and its reaches, and, on the other, its actual execution has extended far beyond most expectations. The preface to the decade might well include G. Stanley Hall's

⁴² One might recall the notable research of a lifetime on the part of the professor of Greek who specialized only in the dative case but regretted that he had not limited his career to the iota subscript.

⁴³ "Some Researches into Research," *Journal of Applied Sociology*, IX, 3-11.

tribute that "man is really only just starting on his career as an investigator so that thus research is not only the apex of creative evolution and the highest vocation of man, but is the greatest joy that life affords to mortals,"⁴⁴ while the unfolding pages will reveal millions of dollars expended for effective research and such scientific organizations for its promotion as the National Research Council, for the physical sciences, and the Social Science Research Council, for the social sciences, with increasing interlinkings between the two. The problem of training research specialists has been accentuated and eagerly seized upon in the wake of increased needs and of evidences of dangers from unscientific programs of investigation in many fields. Here the universities are the "chief shrine and also the power house"⁴⁵ of this post-bellum period of progress, liberally supplemented and encouraged by increasing appropriations and benefactions, by individual scholars and students, and by philanthropic foundations and agencies. Research is, therefore, extending into every avenue of life and society so that all research becomes social in its genesis and implications. Can the scientific methods so satisfactorily used in researches into the physical universe now be applied and adapted to the field of social phenomena? And in what ways are the methods of science and research, as developed among the physical sciences, inseparably related to the social sciences, in what ways are they essentially different, and in what ways may they be integrated and unified? A satisfactory understanding of these relationships will constitute early steps in any introduction to social research.

⁴⁴ "Message of the Zeitgeist," *Scientific Monthly*, XIII, 116.

⁴⁵ *Ibid.*

CHAPTER III

THE PHYSICAL SCIENCES AND THE SOCIAL SCIENCES

In any appraisal of the scope, methods, and atmosphere of modern social research the physical sciences constitute an integral factor. The unity and universality of science and the scientific method are nowhere more comprehensively illustrated than in the "problem" of interrelation. The physical sciences have contributed largely to the making of modern civilization and culture, to the genesis and evolution of much that goes into social science, and to the educational backgrounds and experience of many of the social philosophers and social scientists. What social problems, therefore, have the physical sciences developed for understanding and mastery by the social sciences? What methodology and process have they contributed to the social sciences? What are the essential similarities and interrelations between the physical sciences and the social sciences? And what, finally, are some of the fundamental differences between the two groups in data, methods, objectives, and limitations?

Unity of Science and Social Development. Newer meanings of science and essential measures of its scope and sweep may be observed from an examination of its power in fashioning modern social culture and patterns as well as its place in the development of a vast material civilization. Although the old antagonisms between the physical and the social sciences are being replaced by mutual interdependence, there is danger that the social implications and ramifications of the physical sciences may not be adequately recognized in the development of modern social research programs. In so far as the physical sciences have affected and colored the structure of modern society, they are all social. And in so far as the physical sciences have influenced and are now affecting the development of the social sciences they constitute an element and a problem of social research. Thus all science becomes social and humanistic, so that the problem of unity and integra-

40 PHYSICAL SCIENCES AND SOCIAL SCIENCES

tion in the scientific approach to the study and guidance of society becomes logically more and more important.

George Sarton in the first volume of his notable history of science expresses the opinion that "No history of civilization can be tolerably complete which does not give considerable space to the explanation of scientific progress."¹ Bertrand Russell writes that "Everything in which the modern world differs from that in the renaissance, whether for good or evil, is traceable ultimately to the influence of science. . . Nothing that goes against science has any chance of lasting success in the modern world."² Thus, too, William F. Ogburn and Alexander Goldenweiser emphasize not only the task of social science but its alignment with the physical sciences: "Civilization, nurtured and strengthened by the natural and exact sciences, must henceforth look for its preservation and enhancement to the sciences of society."³ And A. d'Abro's appeal for unity may well represent the true keynote of the present era: "The governing motive that has inspired scientists has ever been the same—a search for unity in diversity, a desire to bring harmony and order into what might at first sight appear to be a hopeless chaos of experimental facts."⁴

Expansion of Physical Science. From the methods and scope of the physical sciences in the seventeenth century to the present range and application is indeed a far advance. Instead of the mere theoretical researches of "pure" mathematics, for instance, there are now hundreds of arts and applications wrought out through applied branches of dynamics, statics, hydrostatics, hydraulics, pneumatics, architecture, meteorology, geophysics, statistics, and the refined methods of making instruments of precision to serve every known need of mankind. An examination of such an array of applied arts and practices on land and sea and air, with engines, ships, guns, bombs, railroads, canals, bridges, harbors, buildings, machines, in fine, civilization in its material measures, would almost convince one of the truth of d'Abro's assurance that mathematics is the essential science for the discovery of social truth.⁵ And yet if one but looks at biology, developing through its half dozen branches into the astonishing ramifications

¹ *Introduction to the History of Science*, I, 3.

² *Selected Papers*, p. xiv.

³ *The Social Sciences and their Interrelations*, p. 9.

⁴ *The Evolution of Scientific Thought*, p. v.

⁵ *Ibid.*, pp. v–xv.

of its applied divisions, medical sciences, economic entomology, agriculture, horticulture, with a complete renovating of the world of men and of situations, it is clear that mathematics is not the only physical science which has accumulated a human load of gifts and obligations to mankind. Indeed a look at the reach and grasp of physics becomes still more illuminating in its reflection of what has been done to and for human society through the applied branches and arts growing out of physics. How physics has transformed modes of living in the home, modes of recreation and of diffusion of news and opinion is but a sample of its reach into the social realm. And chemistry is not only yielding unheard of social dividends in contributions to food, health, agriculture, industry, esthetics, but of its power it was said at the end of the World War that it had produced enough poison gas to destroy man from the face of the earth. Other physical sciences have made similar contributions.⁶

In short, the old physical sciences in all their glory of "pureness" appear more as the matrix or genesis of the vast modern era than as synonymous with it. Instead of the half dozen primary sciences and their theoretical and cosmic inquiries we have many more physical sciences today whose objectives, methods, and applications have long since combined the physical with the social implications. The very nature of man's activities, his physical and his spiritual quests have been transformed through the application of results from scientific laboratories to all manner of life. The automobile, the aëroplane, the radio, the moving picture, preventive medicine are no mere physical forces, but social and psychical challenges to social control and guidance. So powerful have been the physical sciences that they have modified both the backgrounds of man's social experience and his institutions as well. The physical scientist, therefore, is no longer oblivious of social products, no matter how interminable his continued activities may appear in the field of pure discovery and study of physical phenomena and processes.

Invention and Social Progress. Further evidence of the social significance of the physical sciences may be observed in abundance from exercises in the study of the relation of modern inventions and discoveries to social progress. William F. Ogburn has been emphasizing research in this field for some years and he

⁶ See current discussions, such as E. E. Slosson's *Creative Chemistry and Keeping up with Science*; H. E. Barnes' *Living in the Twentieth Century*; F. L. Darrow's *The Story of Chemistry*.

has presented excellent, concrete evidence in his article on "Inventions and Discoveries" in the July, 1928 *American Journal of Sociology*,⁷ devoted to social changes in 1927. He says, "it may appear strange to the reader that an article on inventions and discoveries in 1927, which are reported largely in the mechanical and non-social field, should be included in a collection dealing with social changes. It is the belief of the writer, however, that such an inclusion is not only permissible but obligatory. For have not the inventions of the automobile, the steam engine, and correlated mechanical developments been responsible for profound social changes in such social institutions as the community and the family, as well as for far-reaching changes in social customs? It is also obvious that such mechanical changes very seriously affect the social welfare of human beings, for good or bad. Indeed, it may be argued with some success that the origins of most of the innumerable social changes occurring today lie in new inventions of a mechanical nature and in the scientific discoveries of natural science, though we cannot always foretell from the new inventions or discoveries what specific social changes will be precipitated. No apology on this score, therefore, seems necessary." Ogburn's list includes fifteen divisions: *medicine, vitamins and ultra-violet light, medical instruments, biology, agriculture, chemistry, metals and mechanical devices, engineering, physics, electricity, radio, aviation, geology, safety devices, and miscellaneous.*

National Research Council. The organization and work of the National Research Council, devoted to the promotion and co-ordination of the physical sciences, is another indication of the interrelation between the physical sciences and the social sciences.

The first objectives of this council, its personnel throughout the war, and its continued emphasis upon the coördination of efforts are indices of social implications. In October 1922, the National Research Council, on recommendation of its Division of Anthropology and Psychology, appointed a Committee on Scientific Problems of Human Migration with Psychological, Biological, and Sociological Conferences. The purpose of the Committee was to consider carefully, "from the point of view of natural science, the complex migrational situation resulting from the World War and from the virtual elimination of space as a barrier to movements of

man and to race intermixture; to prepare a research program which might reasonably be expected to yield ultimately such reliable information concerning physical, mental and social characteristics, relations and values of ethnic groups (races or peoples) as is necessary for the understanding and wise regulation of mass-movements of mankind; and to initiate, organize, support, coördinate, or otherwise further in accordance with the best judgment of the group, important investigations.”⁸ Another exercise in the study of such interrelations may well be found in the report of the executive secretary for February 1928 in which the social phases are reiterated under several divisions: *Foreign relations, states relations, educational relations, physical sciences, engineering and industrial research, medical sciences, biology and agriculture, anthropology, and psychology.*

Integration of Physical and Social Science with Society. Further appraisal of the interrelation of the physical sciences with the social sciences may be made by charting them in some perspective showing cross relationships with each other and with certain “elements” of social structure and process. In this chart the list of physical sciences and of social sciences is fairly inclusive. In general this list will constitute the assumptions of the present volume. To the physical sciences are appended certain of the newer applied “sciences” and to the social sciences certain developing applications to social guidance. The list of “elements” or factors of social life and structure, constituting a basis of social phenomena, is an elementary grouping for the purpose of analysis, but nevertheless one which seems to be sufficiently comprehensive, practical, and specific, to serve the present purpose.⁹

The “elements” in the chart on page 45 used for illustration in this volume include the geographic and biological factors as found in the *physical backgrounds* of society and as constituting

⁸ R. M. Yerkes “The Work of Committee on Scientific Problems of Human Migration, National Research Council,” *The Journal of Personnel Research*, III, 189.

⁹ There is of course no objection to other classifications. Frank H. Hankins, for instance, treats four elements or forces only—the geographic, the biological, the psychological, and the cultural. Sumner and Keller recognize man and land as the two fundamental elements. And an exercise in the study of other lists of elements would prove interesting. But whatever elements are listed, the important point is that the physical sciences have worked upon them powerfully. See F. H. Hankins, *An Introduction to the Study of Society* and Sumner and Keller, *The Science*

the basis of the physical sciences. Since the data of the social sciences are based almost entirely upon relationships—social relations—the essential character of which is constantly changing, the elements of *social change* and *social incidence* manifestly are important, social incidence referring to those aspects of changing relationships commonly not predictable or as yet measurable. The elements of *individual and social difference* and of *personality* and *leadership* lie at the basis of the modern science of human behavior and social culture. The six major institutional modes as found in reproduction and nurture, the *home and family*, *education*, *religion*, *government*, *industry*, and *community*, seem to cover all fundamentals of the products of interrelation between physical and social environments and between social relationships themselves. And, in the modern era, the *social sciences* as developing, including the physical science bases, appear to be a distinct element in the social structure and are therefore included. Other terminology appearing more "scientific" might be used, but the preference is for such inclusive and practical designation as may be easily adapted to modern situations, particularly in America. Further concrete illustration of these divisions will be found in Chapter V dealing with the range of social research. The list of physical and social sciences has been arranged in such way as to show contrasts as well as interrelations between the physical and social aspects of geography, biology, anthropology, psychology, engineering, ethics, and others. From the present chart one may arrive at a picture of the social theory involved in the whole field of social research, its backgrounds, and its tools. It must be clear from abundant, concrete evidence easily available that the physical sciences have affected profoundly each of the elements from the transformation of physical backgrounds to the whole major contribution of scientific invention to modern social progress. It must be equally clear that there are important interrelations between the physical sciences and the social sciences. Thus, the physical sciences operating in one way help to evolve the social situation and the social problem to which in turn the social sciences direct their joint scientific attack. And it is equally manifest that in the study, analysis, and mastery of these elements of the social field all the social sciences become essential tools for the discovery of new truths and for the accomplishment of new mastery.

AN INTERDEPENDENT FIELD OF SOCIAL RESEARCH

A TYPE OF ANALOGICAL AND RELATIONAL CONCEPT

<i>The Physical Sciences</i>	<i>Elements of Social Process</i>	<i>The Social Sciences</i>
Mathematics →	Physical Backgrounds ←	History
Astronomy	Social Change	Economics
Physics	Social Incidence	Political Science
Chemistry	Individual and Social Differentiation	Social Psychology
Physical Psychology	Personality and Leadership	Social Geography
Physical Geography	The Home and Family Relationships	Social Anthropology
Physical Anthropology	The School and Educational Guidance	Social Biology
Physical Biology	The Church and Religious Experience	Jurisprudence
Geology	The State and Governmental Control	Social Ethics
Engineering	Industry and Working Conditions	Social Statistics
Newer Composite Applied Sciences	Community and Larger Associations	Sociology
Radio	Social Science and Social Guidance	Special Applications
Aeronautics		Legislation
Automobile Engineering		Business
Polar Exploration		Religion
Ocean Transportation		Education
Bacteriology		Social Work
Medicine, Surgery		Psychiatry
		Public Health
		Social Planning

The Influence of the Physical Scientists upon the Social Scientists. Another way of measuring the effect of the physical sciences upon the social sciences is to note the marked stimulation of certain of the social sciences by the physical sciences in the seventeenth and eighteenth centuries, as well as later. Directly and indirectly the sweep of the physical sciences was instrumental in promoting increased activity of the social sciences and in introducing much of the methodology of the physical sciences into the social field. This early phase of the social sciences will be described and evaluated in later chapters dealing with types of approach and methods of social study and research. The previous chart indicated indirect influences of the several physical sciences upon the social sciences. The present list gives simple evidence in terms of contemporary physical and social scientists of the seventeenth and eighteenth centuries. That is, how many social scientists were developing alongside the physical scientists and how did they compare in character, development, and contributions? Note, for instance, the popularity of political philosophy. It is important to note from further study how various social scientists have func-

tioned in the several fields both of physical science and of philosophy and social science. Thus, historically the social sciences had much in common with the physical sciences. Much of the present-day tendency to make the methodology of the physical sciences the exclusive method of the social sciences therefore is not new. The point of emphasis, then, in the following exercise is twofold: One to indicate the range of contemporaneous effort in the physical and social sciences and the other to indicate interrelations as expressed in personnel, both among the social sciences and philosophy and between the physical sciences and the social sciences.

In these samplings of scientists of the seventeenth and eighteenth centuries will be found many who worked in more than one field. Names in italics indicate such versatility. Other points of special interest will be found in the relative number in each division, notably political science. MATHEMATICS: Fermat, *Pascal*, *Newton*, *Leibnitz*, *Huyghens*, *Descartes*, MacLaurin, D'Alembert, Euler, Monge, *Bernouilli*, *Gauss*, Lobatchevsky, Legendre, Prony. PHYSICS: *Galileo*, *Pascal*, Torricelli, Viviani, von Guericke, Boyle, *Huyghens*, Hooke, *Newton*, Roemer, *von Leeuwenhoek*, Volta, Oersted, *Bernouilli*, Clairault, Franklin, Watt, Coulomb, Lagrange, Ampere, Ohm, Rumford, Chladni, Avogadro, *Davy*, Fraunhofer, Brewster, Fresnel, *Faraday*, Henry, *Gauss*, Young. CHEMISTRY: Boyle, Stahl, Black, Cavendish, Priestley, Scheele, Lavoisier, Berthollet, Wollaston, Dulong, Proust, Berzelius, Gay-Lussac, Chevreul, Dalton, *Davy*, *Faraday*, Avogadro. ASTRONOMY: Cassini, Kepler, *Galileo*, *Huyghens*, *Newton*, Halley, Bradley, Herschel, Bode, Laplace, Arago, Bessel, *Gauss*. BIOLOGY: Malpighi, *von Leeuwenhoek*, Galvani, Volta, Linnaeus, Hunter, Spallanzani, Lamarck, Brown, Bell, Young, Cuvier, Weber, Audubon, Von Baer. HISTORY: Bongars, Tillemont, *Leibnitz*, Bayle, Montfaucon, Mabillon, Dubos, Murratori, *Vico*, Montesquieu, Voltaire, De LaGrange, Bouquet, Hume, Raynal, Robertson, Turgot, Moser, Gibbon, Schmidt, Schiller, Condorcet, Spittler, Herder, Chateaubriand, Heeren, Hegel, Niebuhr, Schlosser, Savigny, Prescott, Baur, Schopenhauer, Sparks, Force, Van Ranke, Carlyle. POLITICAL SCIENCE: Bodin, Milton, Grotius, More, Campanella, Machiavelli, Luther, Hobbes, Melanchthon, Zwingli, Calvin, Harrington, Filmer, Locke, Savile, Spinoza, Pufendorf, Bossuet, Thomasius, Wolff, *Vico*, Bolingbroke, Quesnay, Montesquieu, Smith, Franklin Vattel, Hume, Rousseau, Mably, Helvetius, De la Rivier, Turgot De Nemours, Beccaria, D'Holbach, Chastellux, Blackstone, Kant, Burke, De Maistre, De Boland, Adams, Hamilton, Bentham, Godwin, Condorcet, Malthus, Von Humboldt, Mill, Fichte,

Hegel, Sismondi, Owen, De Lammensais, Austin, Cousin, Guizot, Comte. ECONOMICS: *Mun, Petty, Quesnay, Smith, Hume, Turgot, Cantillon, Hamilton, Malthus, Saint-Simon, Ricardo, Carey, List, Mill.* SOCIOLOGY: *Hobbes, Machiavelli, Berkeley, Montesquieu, Vico, Smith, Condorcet, Bentham, Carey, Malthus, Saint-Simon, Comte, Fourier, Owen, Mill.* PHILOSOPHY: *Bacon, Hobbes, Descartes, Spinoza, Locke, Leibnitz, Campanella, Malebranche, Berkeley, Vico, Toland, Condillac, Rousseau, Hume, Kant, Hartley, Turgot, Priestley, Fichte, Hegel, Herbart, Comte, Schopenhauer.*¹⁰

The Physical Sciences and the Social Sciences. In order to understand the present status of the social sciences, it is necessary to know something of the influence of philosophy, on the one hand, and of the physical sciences, on the other, upon their genesis and development. Later chapters on various types of approach to the study of society will reveal significant contributions of philosophy, while the chapter on the analogical approach will emphasize especially the attempts to consider social phenomena in the same terms and methods emphasized in studying physical phenomena. A glance at the above list shows something of the rapid development of the social sciences alongside and just after the tremendous strides of the physical sciences in the seventeenth and eighteenth centuries. It is of particular interest to note the rather phenomenal development of political philosophy, to be the forerunner of political science. It was of course but a logical development for the social sciences, evolving from the necessity of explaining human relations, to fall in with the methods of philosophy or natural science as the case might be. There grew up, therefore, a considerable tendency to assume that since the physical sciences had achieved distinction and success in certain ways, the social sciences must follow in their steps. This concept was both a scholarly one and a logical one and still exists to a great extent at the present time. On the one hand, there are those who assume that the methods of the physical sciences are the only reliable methods, and unless they are utilized in the social sciences, there can be no science. This sometimes leads to the conclusion that, since it is evident that social

¹⁰ Floyd N. House, *The Range of Social Theory*; James P. Lichtenberger's *Development of Social Theory*; Pitirim Sorokin's *Contemporary Sociological Theories*; Lewis H. Haney's *History of Economic Thought*; Herbert E. Cushman's *Beginner's History of Philosophy*, Vols. I and II; Horatio W. Dresser's *History of Modern Philosophy*.

phenomena are different from physical and therefore cannot be studied with the same methods, social science is not possible.

Fallacies of Pure Analogy. These are constantly recurring questions that must be studied. And yet it must be clear that the analogy between the physical sciences and the social sciences is after all more figurative than real. One, perhaps the greatest, fallacy of the whole general lay opinion is found in this false assumption that unless the social sciences develop the same methods and sort of results as the physical sciences, they are therefore not sciences. The very nature of human beings and of social relationships requires a constant orientation among the social sciences which is foreign to a physical science which deals with material elements. The essence of society is change and development—its units of study, nations, families, races, communities, modes of living, social satisfactions. The materials of the social scientist are not physical materials, his objectives are not physical objectives, and his methods cannot be the same. Nevertheless, it must be repeated often, that the social sciences may gain much from developing their methodology along with the physical sciences.

As a matter of fact, this attempt to make of the social sciences merely adaptations of the physical sciences is not new. The classical social theorists as germinated in the old social philosophers surmised and made hypotheses a plenty about the human and social organism and the forces which knit it together and pull it apart. Psychical and social phenomena were interpreted by Greek philosophers in theories of materialistic atomism. *Hobbes*, *Spinoza*, *Descartes*, and others attempted to study man as a kind of physical automaton—life a regular functioning mechanistic unit, death its wreck. Thus we find that the conspicuous seventeenth century in which physics, mechanics, and mathematics flourished was notable also for the carrying over of methods and conclusions into the social field. From his limited results and his uneven success in his efforts *et exquirire et docere causas rerum* the physical scientist has attempted to discover the unknowable in terms of cosmic philosophy, and failing that has turned to the social field, still attempting to utilize his old methods of physical science or speculative philosophy. And the mechanistic social theorists, how they tried to make a mathematical or an astronomical or physical mass out of human society! *Sperkotorsky* made an astronomical human order with the human being an attraction and compulsion of conations,

society a system of individuals, so attracted or repelled, mankind a system of the attraction and compulsion of groups. Others made elaborate systems of dimensional proportions, with time, space, extension as elements. *Bentham* had moral arithmetic, *Herbart* mechanistic psychology, *Berkeley* a theory of moral attraction and social stability. The physicists found centrifugal forces in egoism, and centripetal forces in social instincts. *Saint-Simon* interpreted society in terms of *Newton's* laws of gravitation; and so on for many other types up to *Comte's* social statics and dynamics and *Quetelet's* statistical measurement of man. *Carey's* mechanistic monism was not unlike theories of many others who tried to subject human association to the laws of physics and mechanics, or theories of energetics which make energy the fundamental force, or like *Winiarsky* make social aggregates nothing but a system of points and atoms being repelled and attracted through biochemical energy.¹¹

Unity between the Physical and Social Sciences. The unity of all science so often emphasized in this volume is, therefore, not the old unity of merely organic analogy, but a very real unity of relationship and of essential law and development. It is the unity which reflects universal law and causal relationships in all phases of life, social and physical, and in the "inanimate" world. Because causal relationships have not been so clearly worked out in social phenomena or because laws have not been perfected is in no sense evidence that they do not exist. On the other hand, evidence of the close relationship between biology and psychology or between biology and ethics, is not evidence of analogical similarity. Rather the reverse is true, the study of psychology and ethics and anthropology being essentially different from the others because developed partly from them. Thus social biology, so far from being a merely analogical application of biology to an organismic society, is the essential contribution of biology, through studies of population, race, sex, health, and many other special phases of human life, to the science of society. It makes biology contribute to the study of society rather than synonymous with it. The unity of the sciences is further a *unity* of method and spirit rather than an *identity* of methods and objectives. Their unity is again one of backgrounds and basic foundations rather than identity of products and processes.

¹¹ See Chapter VIII for further discussion and references.

Exercises in the concrete may be multiplied by referring to other physical sciences and their relationship to social problems and therefore social science. No one appears to doubt the causal relationship between certain aspects of digestion and feeling or conduct, yet few scientifically minded folk would care to draw up a complete analogy between stomach and spirit or prescribe the same sort of science for pharmacy and morality. Nor does the fact of relationship between physical digestion and creative effort thereby lessen the glory of heroism or the beauty of poetry. No more should the relationship between biology and ethics cause alarm or lessen the expertness of biologist or ethicist. There is a still greater unity between the physical and social sciences, utterly devoid of analogical identity which has to do with the ultimate effect upon human living of the physical sciences. *Robert A. Millikan*, eminent American scientist, speaking before the Society of Chemical Industry gives what might be termed a brilliant example of fundamental unity. "The recent exact measurement of the amount of lead in the Black Hills uraninite and of the exact atomic weight of that lead is not usually regarded as a great engineering undertaking. Nor as an accomplishment fraught with important, useful consequences, but I venture the estimate that the knowledge that has come from that and similar experiments, to the effect that this world already has had a lifetime of at least a billion years and that man has, in all probability, another billion years ahead of him in which there is the possibility of his learning to live at least a million times more wisely than he now lives, is likely to have in the long run a much larger influence upon human conduct than the invention either of the airplane or of the radio, important and useful though these be."¹²

Differences between the Physical and Social Sciences. What is needed is as complete understanding as possible of both the similarities and interrelationships between the physical and social sciences and their essential differences and independent characteristics. For the groundwork and first principles of the social sciences, the similarities and interdependencies are of first importance; for the perfected technique and methods of the social sciences, as distinctive organized bodies of knowledge with scientific method, the differences are essential. To the unity of spirit, of general method, of comprehensive objectives of the search for truth and mastery, are added fundamental differences in materials, control, character of phenomena, and therefore of

¹² See Proceedings of 1928 meeting.

specific methods.¹³ The social sciences have distinctive problems in their lack of agreement and definition; in their general and vague procedure rather than the specific methods of the physical sciences; in their indefiniteness of nomenclature; in the indirection of measurement, in their lack of adequate methods; in their lack of controlled experiment; in the changing nature of data; in the complexity of phenomena; in the indivisibility of phenomena and inseparability of the problems; in the human factors; in the continuous process of orientation.¹⁴

Special exercises in the further study will reveal many other differences in detail. Some of the differences, like the human factor, the changing character of data, and the telic implications, are organic; others, like definition, method, and exactness await scientific development. A statement illustrating each type of difference is that quoted in the reports of the second National Conference on the Science of Politics in 1924. "There is danger that the natural sciences must always outstrip the social sciences. In the first place, the natural sciences can use the experimental method, and the social sciences have hardly yet devised an adequate substitute. Then again in the natural sciences, the inventor and original thinker is rewarded and honored, but in the social sciences the inventive mind is more or less ostracised and new ideas that touch upon the key problems of modern life, namely, the control of human and economic activities, are at once branded as radical and dangerous. This apparent discrimination against the social sciences is entitled to careful consideration. Is it a necessary difficulty inherent in the very nature of the social disciplines? Or is it due, at least in part, to inadequate and inconclusive methods of social research."¹⁵

Developing the Social Sciences by the Aid of the Physical. There is, therefore, in the very close relationship between the physical and social sciences more than mere organic unity and similarity. There is logical development and sequence. The success of the

¹³ One of the best statements of the differences between the social sciences and the physical sciences has been given by James Bryce in his *Modern Democracies*, pp. 13-14. He notes three chief distinctions as found in the difference in the nature of facts; in time, space and relational distribution; and in the human bias involved in the student. "The fundamental difference between the investigations of external nature and of human affairs lies in the character of the facts to be observed."

¹⁴ For a more critical view of the differences between the physical and the social sciences, see Chapters XIX and XXIV.

¹⁵ *The American Political Science Review*, XIX, 1.

physical sciences in discovery and invention, and in the formulation of laws, led the scientifically minded to inquire as to whether the same results could not be obtained from the same methods in the social world, in which philosophy had failed to satisfy the scientific obligations of the time. Knowledge about physical phenomena alone were not satisfying; men wanted to know more about society and its ways. It was, therefore, but a natural step to confuse analogy of scientific spirit and method with identity, and forthwith to apply the methods and data of the physical sciences to social phenomena. What scholars did not foresee was the fact that analogy must inevitably lead only to approximation and to the philosophical and metaphysical methods which automatically preclude their becoming sciences.¹⁶ Thus, the beginnings of the social sciences, while an epochal sort of thing, were turned into such channels as inevitably led to generations of delay in the evolving of real social science. Wrong concepts of the nature of social phenomena and their real relation, on the one hand, to physical phenomena, and, on the other, to supernatural elements, were accompanied by the lack of initiative, energy, and ability to work out techniques of describing and measuring social phenomena—the supreme task of science. One of the most important penalties of such a development has been the setting of physical scientists over against the social scientists with undue hostility and “unscientific” criticism, which happily is now being rapidly changed. Something of the long history of this development and of its significance may be learned from later chapters on the analogical and philosophical methods, from the story of the evolution of the several disciplinary approaches, from the philosophical and analogical toward the scientific, and from the next chapter on the Development and Interrelation of the Social Sciences.

¹⁶ See Chapters XIX and XXIV for a discussion of the new alignment of the physical and social sciences based upon logical and basic interrelations of fact and contribution.

CHAPTER IV

THE DEVELOPMENT AND INTERRELATION OF THE SOCIAL SCIENCES

The Rise of the Social Sciences. It has commonly been assumed within recent years that the most notable feature of the present era was the successful achievement of the physical sciences. In terms of quantitative extension, new discoveries, and visible application, and in terms of a period extending over a century backward, such an assumption seems justified. In the previous chapter we have pointed out how the physical sciences have been the key-power to the transformation of human backgrounds and institutions. And yet, in this review of the power and sweep of the physical sciences, it is their application to social environment which constitutes the most notable feature. The rise of the physical sciences from the seventeenth and eighteenth centuries, and their final freedom in the nineteenth century, with their victories in achieving a place in the new order, constituted their first notable epoch. In the present era the perfection of techniques and the utilization of results, attained by science, for the promotion of human ends constitute the major gain. If, then, in the light of our last chapter, and if we consider the present era as beginning at the turn of the twentieth century and in terms of fundamentally new contributions, the outstanding contributions seem to be the rapid development of the social sciences, their closer interrelation with one another and with the physical sciences, and their integration of scientific attack upon social phenomena. That is, the physical sciences have developed in magnificent proportions and beyond fondest expectations, and they have apparently only begun; but more concretely epochal and far-reaching is the present titanic struggle of the social sciences to achieve successfully in the social realm.

Even those who magnify science as the chief gain of modern civilization emphasize its continued advance with special emphasis upon its contributions to society. Thus twenty distin-

guished physical scientists in forecasting the new advances of science during the immediate year ahead, have kept in mind the productive results and have prophesied that "the achievements of the past few decades, marvelous as they seem to us, are indeed small compared with what the future holds."¹ We have quoted *C. Judson Herrick*² as holding that the control of natural forces is the final achievement of science, in which, however, he interprets control as meaning the adaptation of behavior to law. *Lynn Thorndike* makes the advance of science the capstone of civilization, but it is for its "great contributions to modern industry, communication, and comfort, and public health" that he assigns it the chief place. Because it has "lengthened our days and the years of our lives, enriched our sensations and filled our minds," it is the master contribution.³ And we have pointed out elsewhere that in spite of the tremendous success of the physical sciences to master man's physical environment "there is evidence to indicate that progress in the technique of applying this knowledge to the arts of living has been the outstanding achievement of the era."⁴ This general agreement concerning the increasing accomplishments of science may be found in the whole range of literature from the full-page advertisement in the popular periodical to George Sarton's *Introduction to the History of Science*. For instance, *Joseph Mayer* makes his appeal for "Social Science in the Making" on the grounds that "the outstanding feature of the age in which we live is the achievement of physical science."⁵ *E. E. Slosson* writes copiously about science "moving so rapidly nowadays that it makes the on-looker's head swim to watch it."⁶ And in numerous volumes and current periodicals the same emphasis will be found in a continuous stream of analysis and discussion.

Alignment with the Physical Sciences. In the previous chapter we discussed something of the debt of the social sciences to the physical sciences in terms of "logical" development and factual contributions as well as something of the obligations which invention and discovery through the physical sciences place upon the

¹ "Marvels We May See in 1927," *Popular Science Monthly*, 110, p. 21.

² Chapter II, p. 28.

³ *Short History of Civilization*, ch. xlvi.

⁴ *Man's Quest for Social Guidance*, ch. xxxiii.

⁵ *The Seven Seals of Science*, chs. i and xiv.

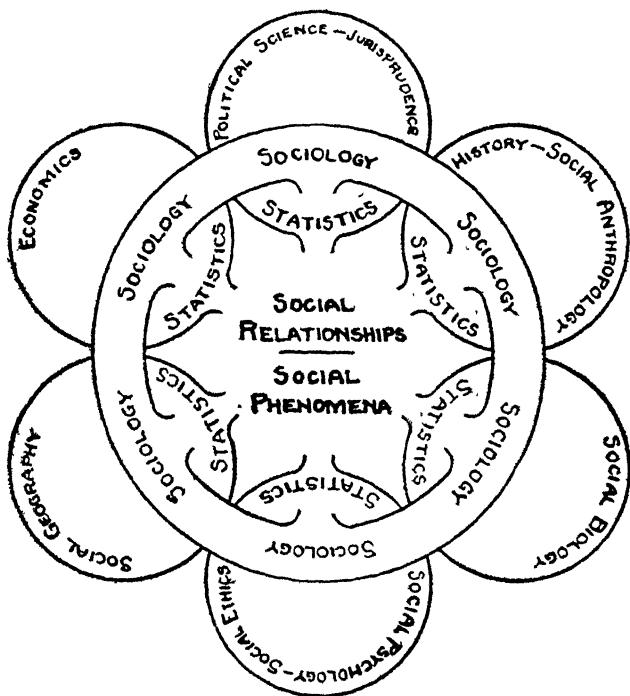
⁶ See, for instance, *Creation by Evolution* ed. by Frances Mason, *Scientific Research and Human Welfare* by Harris and Butt; *Modern Science and the People's Health* by Benjamin C. Gruenberg, *Beacon Lights of Science* by Theo. F. Van Wagener, *Great Moments in Science* by Marion Lansing, *Makers of Science* by Ivor B. Hart, *Science and Human Progress* by Sir Oliver Lodge, *Introduction to the History of Science* by George Sarton, and a score of similar volumes.

social sciences. There is an even more direct relation between the physical sciences and the development of the social sciences in the literal growth of certain social sciences out of certain physical sciences, and a consequently much closer interdependence. Alongside the eleven physical sciences listed were paralleled eleven social sciences, several of which are directly interrelated. From mathematics has evolved statistics which in turn has come to have significance as a social science of methodology and as an instrument of observation. From physical biology has come, in part, social biology; from physical anthropometric anthropology has come cultural anthropology; from physical psychology, social psychology; and from physical geography has grown human geography. From the technical working of mathematics, physics, and engineering have come social engineering and social planning, while similarly the technique of the common law has evolved into social law or jurisprudence. There is manifest, therefore, this newer development of the one from the other and the newer sort of interrelation between the physical and social sciences, so often neglected in the past because of analogical confusion, and in the present by common default. The present stage of development and interrelation of the social sciences is therefore preceded by their development from and alignment with the physical sciences, and is fairly consistent in three ways.

There is the influence of the physical sciences, first, in stimulating the development of the social sciences and later in piling up social implications and situations for the social sciences to attack. There are, then, the actual contributions and interrelation of the physical sciences in method, basic content, and materials. And finally there is the very real alignment of the social with the physical sciences in attempting to work out the social research problem. Examples of these will be found in subsequent chapters, particularly those of interrelations in the next chapter on The Range of Social Research. Whereas this chapter and the preceding one show, in general, development and interrelation deductively, later chapters will give the basis for the inductive look at the same problem. A similar exercise in portraying the development and interrelations between both the physical and the social sciences and philosophy would prove illuminating, and some evidence of this may be found in many of the later chapters of the book, and in any study of the evolution of science. *W. F. Ogburn and Alexander Goldenweiser thus*

refer to the emergence of the social sciences reminding us that "In the days of Aristotle, Plato, and Pythagoras, philosophy still embraced the exact, natural and social sciences. At the beginning of the nineteenth century the exact and natural sciences—mathematics, astronomy, physics, chemistry, geology, biology—had already left their philosophical matrix and were rapidly developing their own methods and techniques, while preserving a tendency to return to philosophy for an occasional theoretical and speculative rehauling. But the social sciences—history, ethics, law, economics, psychology, religion, esthetics, anthropology (such as it was)—were still rocking in the metaphysical cradle of Mother Philosophy."⁷

THE SOCIAL SCIENCES



A TYPE OF ANALOGICAL AND RELATIONAL CONCEPT

⁷ *The Social Sciences and Their Interrelations*, p. 2.

The Range of the Social Sciences. The present development and interrelation of the social sciences as studied in this volume involve *history, economics, political science, social psychology, social biology, social anthropology, social geography, jurisprudence, social ethics, sociology, and social statistics*. The field and type of approach of each as examined in the several chapters which follow indicate conclusively the importance of including each of those designated. History is assumed to be a social science in the manner set forth in the chapter on the historical method. The social contributions of biology, geography, and ethics to the science of society as well as to social progress make them essential units in the new social science. While statistics is the tool of all the sciences, social statistics is a social science in the sense in which W. F. Ogburn uses it. He says "statistics is also a science, but it is different in kind from the other social sciences. The subject matter of statistics is the statistical methodology. In this sense it resembles mathematics."⁸

The Social Science Research Council is made up of representatives of the formal organizations of seven of the above disciplines: The American Anthropological Association, the American Economic Association, the American Historical Association, the American Political Science Association, the American Psychological Association, the American Sociological Society, the American Statistical Association.⁹ Wesley C. Mitchell, chairman, explains carefully, however, that "Needless to say, the societies which at present constitute the Council do not regard themselves as covering the whole field of social science. Valuable contributions to the knowledge of human behavior are being made by men whose activities center in such professional pursuits as education, medicine, the law, public administration, the church, business, industry. Indeed, in every calling, problems of how men will react to given situations are encountered. Wherever such problems are dealt with by scientific methods, social science is being applied, tested, or developed. In all efforts of this type, whether they are made in a university, a clinic, a courtroom, a government bureau, or a business enterprise, the Social Science Research Council feels an interest which it hopes to see reciprocated."¹⁰ Harry Elmer Barnes¹¹ lists all of the above except

⁸ *Ibid.*, ch. xxx.

⁹ Other groups which appear closely related are the American Association of Social Workers, the American Psychiatric Association, the American Association of Law Schools, and The American Collegiate Schools of Business.

¹⁰ Annual Report of the Chairman, 1927.

¹¹ *The History and Prospects of the Social Sciences*.

statistics. *Edward Cary Hayes*¹² excludes ethics, biology, jurisprudence, and statistics. *Robert E. Park* and *Ernest W. Burgess*¹³ make a schematic classification to begin with history, followed by the kindred group of anthropology, ethnology, folk-lore, and archæology. In the center then is sociology, followed by the quartette of politics, education, social service, and economics. Other schematic classifications may be found in abundance.

The Case Book, Encyclopædia, and Social Science Abstracts. Three notable recent contributions to the social sciences which are indicative of present developments and interrelations are reflected in the preparation of the *Case Book on Scientific Method in the Social Sciences*, the new journal of *Social Science Abstracts* and the *Encyclopædia of the Social Sciences*, the first two being sponsored by the Social Science Research Council, with the *Encyclopædia* being a joint project of various humanistic and social science societies. Something of the range of scientific articles to be abstracted in the *abstracts* will be set forth in Chapter V. The general outline of the *Case Book* has already been given in Chapter II. A few further facts about the *Case Book* and the *Encyclopædia*, however, are illustrative of the rapid development, the increasing closer interdependence and of the yet complex and tremendous range of the social sciences, as well as of the need for a "generalizing process to which all detailed inquiry should ultimately lead if it is to have the maximum value for science." The analyses planned for the *Case Book* reflect something of the wide range and variety from which samplings for study and synthesis may be made.

In the meantime we may note a different sort, but equally wide range and interrelationship, in the coöperating groups represented in the *Encyclopædia*. This group shows a larger aggregate interrelationship than the *Council*, including the social science disciplines as previously listed together with others which deal more with the application of the results of social science to society, such as education and social work. The *joint committee* of the *Encyclopædia* has representatives from each of the following associations: American Anthropological Association, American Association of Social Workers, American Economic Association, American Historical Association, American Political Science Association,

¹² *Recent Developments in the Social Sciences.*

¹³ *Introduction to the Science of Sociology.*

American Psychological Association, American Sociological Society, American Statistical Association, Association of American Law Schools, National Education Association. *Advisory editors* are selected from anthropology, economics, education, history, hygiene, law, philosophy, political science, psychology, sociology, statistics.

Other Recent Developments in the Social Sciences. The present era of rapid development in the social sciences really began approximately fifty years ago. Since that time each of the social sciences has developed rapidly and radically from its previous status and has manifested a great deal of the critical attitude towards its own scope and methods in addition to the general tendency to work more closely with the other social sciences. This advance is easily measured by reference to the increase in scholarly attainments, enrollment in universities, in publications, and in research activities. The general development of the social sciences will be discussed briefly in this chapter, while something of the special development of each of the social disciplines will appear in subsequent chapters on the several "approaches."

Charles E. Merriam calls attention to the fact that prior to 1880 there had been no systematic "organization of research in the United States, either in the field of history or government,"¹⁴ and *William R. Shepherd* reminds us that in 1876 "research as a scientific pursuit distinct from investigation for the attainment of some material end was nowhere to be found,"¹⁵ although the American Statistical Association dates its organization from 1839. In 1869 there was organized the American Social Science Association with an official organ, *The Journal of Social Science*. This association, as the successor to the American Association for the Promotion of Social Science, which was organized in 1865, was the forerunner of a notable line of later efforts. Since then, numerous social science organizations have been founded and various journals established successfully in the several disciplines. The American Historical Association came first in 1884, followed by the American Economic Association in 1885, the American Political Science Association in 1904, the American Sociological Society in 1905, and later by the American Anthropological Association, and the Social Science Research Council in 1923. Many institutes, foundations, and societies for study, research, and the promotion of the social

¹⁴ Howard W. Odum (ed.), *American Masters of Social Science*, ch. v.

¹⁵ *Ibid.*, ch. ii.

sciences have grown up, and the number and quality of scientific journals represent a high order of energy and scholarship. Representative lists of these are given in Chapter XX.

Divisions within the Social Sciences. Another way of reviewing the whole field of social science is to note the various subdivisions and developments within each discipline and the types of emphasis which the various "schools" hold. A part of this variety is due to the historical development of the several social sciences and a part of it reflects much of the kinship and interrelation between the several disciplines. It is not practicable to catalogue the whole range of different points of interest alongside the specialists who work with them. Nevertheless, an elementary analysis of the field is of great importance in getting acquainted with the range and unity of all the social sciences. A good exercise in the study of the range and development of the social sciences may be had by sampling the ten authorities in Barnes' *History and Prospects of the Social Sciences*.

BIOLOGY is classified by *Howard Parshley* into evolution and natural selection, endocrinology, genetics, eugenics; SOCIAL PSYCHOLOGY by *Kimball Young* into the behaviorists, group psychology, instincts—personality group, instincts, the Freudians, experimental; CULTURAL ANTHROPOLOGY analyzed by *Alexander Goldenweiser* into ethnological, cultural objectivism, psychological, environmentalism; HUMAN GEOGRAPHY presented by *Jean Brunhes* as ethnological, political, economic, environmental; ECONOMICS by *Karl Bigelow* as historical, institutional, hedonism, classical, price, statistical; POLITICAL SCIENCE by *Walter Shepard* as constitutional law, administration, municipal government, political parties, politics, international law; JURISPRUDENCE by *Roscoe Pound* as law of nature, social philosophical, economic, sociological; ETHICS divided by *Robert Givler* into the empiricistic, anthropological, sociological, medical, psychiatric, juristic; SOCIOLOGY presented by *Frank H. Hankins* as geographic determinists, biological determinists, psychological determinists, instincts, statistics; HISTORY by *Harry Elmer Barnes* as ecclesiastical and religious, geographic and sectional, institutional, cultural and social, economic, political and legal, legal.

The Logical Development of the Social Sciences. Nowhere is the unity of all science more evident than in the interrelations between the physical and social sciences, wherein the social sciences

may be termed the final unit in the total fabric of science. The social sciences are more than the product of mere sequence from mathematics to sociology as Comte would have it. They represent both the processes and product of all that science has evolved in logical method, scope, data, and applications. This unity and processive development is not only reflected in the utilization of the physical sciences for human development and in the transformation of physical environment, but also in the physico-social borderline nature of such sciences as biology, psychology, geography, anthropology, and in the interdependence of the social sciences themselves. Thus there appears to be general agreement among many of the physical scientists as well as among social scientists, educators, social workers, publicists, and others, that the appearance of the social sciences upon the wider horizon betokens the final promise of science to the modern world. Will the social sciences, then, complete the range of scientific method and application? Can and will they do for the complex economic-social civilization what the physical sciences have done for the physical-material cultures? Will the social sciences approximate in their field and with their method something of the effectiveness of the physical sciences in theirs? They face harder situations and harder techniques. What are the present indications and what the apparent needs? The physical sciences, for instance, in the World War, won it with their skill and invention and increasing productivity. What did the social sciences get scientifically out of the whole epoch? What in scientific information about war? What in techniques of social measuring and direction? What in incentive and materials for further study? What in fine, did the social sciences do in the World War except to help the physical sciences win the war and set in motion great waves of social reaction? Why were the social sciences incompetent in this great social phenomenon and will they yet attack such a social problem with their newer unity and correlated efforts?

Such a problem as war is only one of a number of larger social situations which challenge the modern social research program. Others will be illustrated in the next chapter dealing with the range of social research. Meantime, it is imperative that some index of the status and promise of the social sciences be considered. The first general agreement is the axiomatic dictum

already indicated that the social sciences are entering upon the period of their first great expansion. A simple, yet adequate and concrete, summary of this may be found in the statement of *W. F. Ogburn* and *Alexander Goldenweiser*, whose work in the several approaches of sociology, economics, psychology, and statistics gives emphasis to their conclusion that "the social sciences will, unless all signs deceive us, constitute the contribution of the twentieth century to human thought and power."¹⁶ A symposium of similar judgments may be found by examining the treatises of eminent economists, political scientists, sociologists, social psychologists, anthropologists, and other social scientists. Thus *Ogburn* and *Goldenweiser*¹⁷ present thirty-three contributions by specialists on the interrelations of the social sciences. *Barnes*¹⁸ presents ten, *Hayes*¹⁹ seven, and *Odum*²⁰ nine, while the program of the Social Science Research Council offers a still wider range of verdict on the urgency of the social sciences.²¹

Prevailing Limitations of the Social Sciences. A second verdict about the social sciences is perhaps equally unanimous that their present status is unsatisfactory. This is due variously to their newness, to their lack of harmonious and logical development, to their lack of scientific methods, to their isolation and lack of co-ordination, to their lack of adequate personnel, to their inadequacy of financial and intellectual support, and to uncertainty and conflict among themselves and between the physical and social sciences. Perhaps there is no more significant index of this situation than the fact that, so far as now appears, there is no social science among whose specialists there is agreement concerning fundamentals of scope and method. One need only review briefly the different "schools" of psychology, of economics, of political science, of sociology, of anthropology, and the others to come to a definite realization of just how unsatisfactory the present status is. Various criticisms of the social sciences, briefly cited here, will be supplemented by a fuller examination of objectives and limitations in Chapters V, XIX, and XXIV.

Frederic A. Ogg, surveying humanistic and social research, says, "Turning to the domain of the humanistic and social sciences,

¹⁶ *The Social Sciences and Their Interrelations*, p. 9.

¹⁷ *The Social Sciences and Their Interrelations*.

¹⁸ *The History and Prospects of the Social Sciences*.

¹⁹ *Recent Developments in the Social Sciences*.

²⁰ *American Masters of Social Science*.

²¹ See *Annual Report of the Chairman*, 1926, 1927.

we find scholarly observers even less satisfied with the existing situation. The meagerness of first-rate American contributions to philosophy, philology, political science, and even history and economics—although the showing is somewhat better in these two fields—plainly reveals the immaturity of our culture. Plenty of research work, of a kind, is all the time in progress. Quantitatively, there is little ground for complaint. But a considerable proportion of the studies undertaken are ill-planned, crudely executed, and barren of significant result.”²² *Nicholas J. Spykman* complains that “Among the more earnest students of social life there is a growing realization of the inadequacy of our knowledge and a growing feeling that all is not well with the social sciences. While our electrical, mechanical, and civil engineering technique apparently conquer all obstacles, our social engineering technique is in its infancy and largely guess-work. . . . The social sciences have not reached as yet that cosmopolitan nature which is characteristic of the natural sciences. Physics and chemistry are international, but the social sciences carry a distinct mark of nationality. American, English, French, German, and Russian sociology, each has characteristics of its own. It is therein that they show most clearly their limitations and announce to the world how far they are removed as yet from that absolute scientific objectivity which is the aim of every scientist.”²³

The New Alignment of the Social Sciences. A third general conclusion concerning the social sciences is that there is great need for a new alignment and closer correlation in the development of their materials and methods. Just as there is no longer excuse for hostility and skepticism of the physical sciences toward the social sciences, so the narrow compartmental delimitations and the bitter attacks of certain social sciences upon certain other social sciences are untenable. There is great progress, however, in this phase of the rapidly developing social sciences. The need for closer inter-relation may indeed be said to be fully recognized and many steps have already been taken to meet the essential requirements. In substance, the problem is to develop and utilize the social sciences in such a way as to meet the needs of research and guidance in a society which has little regard for academic specializations and jealousies. The architect and engineer who plan and build a great physical structure are oblivious of whether a chemist or a physicist

²² *Research in the Humanistic and Social Sciences*, pp. 16, 17.

²³ *The Social Theory of Georg Simmel*, pp. vi-xiv, xvi.

or a mathematician provides the data for plans and specifications. What they are interested in is the successful completion of a project.

Here again the most noteworthy movement in this direction is the Social Science Research Council, one of the chief purposes of which is to "encourage carefully planned research by coöperating workers in the several social sciences." *Wesley C. Mitchell*, chairman, warns of the dangers of overspecialization and isolation of efforts, however scientific and important they may be. "Even as a device for gaining knowledge," he says, "specialization is acknowledged to have its drawbacks. We are in danger of distorting our vision when we wrench a section of the world loose from its context to facilitate its intensive scrutiny. We risk waste effort when we use our narrowly limited individual resources in attacking problems which might yield to joint endeavors. The mathematical, physical, and biological sciences were first in this country to organize in an effort to see their problems whole and to facilitate coöperation among specialists concerned with clusters of problems. But shortly after the National Research Council was formed, several representatives of political science, economics, sociology, and statistics came together for a similar purpose. Out of this informal beginning the Social Science Research Council developed in 1923. It was presently strengthened and broadened by the accession of psychologists, anthropologists, and historians."²⁴ More than a decade ago *Albion W. Small* deplored the extreme isolation of the several social sciences: "It would be a boon to interpretation of human experience if we could rise up in our might and destroy the whole miserable trumpery of mechanical partitions between the social sciences, and leave ourselves in the stark presence of social problems. We should then no longer confuse issues by incessantly demanding of one another: Are you of psychology, or of history, or of economics, or of sociology? We should at least keep a little nearer to reality by inquiring: Have you a problem? What is it? How do you go about it? How do you connect it up with all the other problems that are closing in on the mystery of life?"²⁵ *Charles E. Merriam*, the first chairman of the Social Science Research Council and prime mover in its founding, anticipated the present stage of progress. "Likewise," he wrote, "we are likely to see

²⁴ *Annual Report of the Chairman*, 1927, p. 16. See also A. H. Kuhlman, "The Social Science Research Council: Its Origin and Objects," *Social Forces*, VI, 583-588.

²⁵ "Sociological Stage in the Evolution of Science," *American Journal of Sociology*, XV, 696, 697. See also Alfred Marshall, *Principles of Economics*, ch. ii.

a closer integration of the social sciences themselves, which in the necessary process of differentiation have in many cases become too much isolated. In dealing with basic problems such as those of the punishment and prevention of crime, alcoholism, the vexed question of human migration, the relations of the Negro, and a wide variety of industrial and agricultural problems, it becomes evident that neither the facts and the technique of economics alone, nor of politics alone, nor of history alone, are adequate to their analysis and interpretation. . . . After all, it does not seriously matter what this integration is called, whether sociology or *staatswissenschaft* or anthropology or economics or politics. The essential consideration is that the point of view and the contacts are obtained and sustained in the various fields of social inquiry; that twilight zones are not allowed to lie neglected; that partial treatment does not twist and warp the judgment of social observers and analysts. The problem of social behavior is essentially one problem, and while the angles of approach may and should be different, the scientific result will be imperfect unless these points of view are at times brought together in some effective way so that the full benefit of the multiple analysis may be realized.”²⁶ Finally, the statement of Ogburn and Goldenweiser is emphatic. “The social sciences are not merely theoretical disciplines but also tools to be employed in the solution of the concrete practical problems of an existing and developing society. As tools they must constantly co-operate, with an all but complete disregard of academic and classificatory distinctions. The problems of living society do not range themselves so as to fit the artificial isolation forced upon the social sciences by differences of specific subject and method. These problems are what they are. If they are to be solved, whatever knowledge we possess about society must be called into service, wherever needed.”²⁷

Aspects of Interrelation. The social sciences are thus faced with the important problem of developing their specialisms to the point of scientific proportions, duly delimited and available for objective measurement, and at the same time of developing an essential unity in their extension and application to the problems of society.²⁸ It is therefore important to make some distinction between actual scientific research within a given special field, and

²⁶ “Progress in Political Research,” *The American Political Science Review*, XX, 8-9.

²⁷ *The Social Sciences and Their Interrelations*, pp. 7, 8.

²⁸ The same type of problem is involved in the development of programs of cooperative research without underestimating the importance of the individual. See the last paragraph of Chapter VI.

the later application of results obtained. It is likewise important to make some distinction between the processes of perfecting methods within a given discipline and the utilization of data from whatever field available. Failure to make these distinctions has led to considerable misunderstanding of the present tendency toward coördination and to honest skepticism as to its effectiveness. There has been expressed doubt as to whether so great a synthetic reach of the social sciences would not invalidate the whole scientific method. Such a process, however, in the physical sciences does not appear to have retarded their scientific method or the rapid extension of the physical sciences to larger and larger fields of effort. Thus the National Research Council has helped to co-ordinate the physical sciences and to promote their whole program of research. We shall discuss the coördinate tasks of social analysis and social synthesis in Chapter XXIV.

Objections and limitations to the present tendency have been expressed clearly by *John William Burgess*, distinguished founder of the first graduate school in this country, as summarized by *William R. Shepherd*. "The tendencies that appear to accompany in recent years the evolution of the fields of study, more or less related and yet more or less distinct, which have been grouped under the general designation of 'social science,' Burgess regards with a measure of mistrust. They reveal at times, he believes, a disposition to convert an intrinsic interest in fundamental principles into a zest for manifestations of easy inexactness in thought and expression. Rather than producing actual sciences that require precise knowledge, sound reasoning, and correct definition for their understanding and elucidation, their development would seem to indicate the presence of a bent for gathering multiplicities of detail and the absence of a zeal for coherent organization and logical formulation. Too much is being assembled in the shape of things of transience which float about on a readily perceptible surface, and too little of the things of permanence which lie deep-rooted beneath. Instead of displaying a vital concern for ascertaining the really basic relations of man to the state and to society, 'sciences of opinion' would appear to be the outcome—not categories of consecutive thought derived from accuracy of information. Quantitatively, their output may be impressive; qualitatively, they are apt to exhibit the earmarks of a pseudo-science animated by mental and often sentimental emotionalism. The net result thus would be the fostering of a cult of generalities in loose and impulsive utterance, of an acre-

age of pages, of the unlimited expanse of speech. An intensive tillage of the narrow strips lying within that genuine field of the intellect where alone real knowledge, close reasoning and exact definition can be made to rise from the soil is, and must be, the true and the sole function of science, whatever the import of the adjective that precedes the name.”²⁹ *L. C. Marshall* illustrates the twofold requisites well when he says “Thus, political organization is shot through with economic factors. The family has economic, legal, educational, ethical, and religious connotations. The church is linked up with social, ethical, and artistic factors, etc. Nevertheless, for purposes of analysis, the state, the economic system, the family, the church may and must be separated from the rest of the social whole and analyzed as discrete entities. This is a legitimate procedure as long as it is remembered that the dismemberment of the social whole is artificial and is made for purposes of analysis.”³⁰

Types of Interrelations. After all, however, the best understanding of the problem of interrelation among the social sciences will be found in actual illustrations and types of relationships and contributions. From the range of social research there are selected for special illustration in this volume problems of war, population, the family, and regional culture. Manifestly no single social science alone can cope with these and many others, such as race, crime, labor, industry, international relations. No matter what the human problem or the social situation, there is need to approach it in the genuinely scientific method of utilizing whatever methods and materials may be available in the search for particular facts in a wide range of observation as experiment, in the careful analysis of results, and in the broader social synthesis so long neglected.

Ogburn and *Goldenweiser* have attempted to indicate more comprehensively than any one else to date the wide range of interrelations.³¹ A sample of their interrelations presented in some schematic classification will indicate the whole range suggested and illustrated at length in their thirty-four chapters. The interrelations of *anthropology* with the several social sciences yield contributions on many phases and techniques: *With Sociology*: Methodology, social patterns, cultural evolution, social diffusion, parallel social development, kinship and organization, social form and function, transfer of social pat-

²⁹ Howard W. Odum (ed.), *American Masters of Social Science*, pp. 54-55.

³⁰ Quoted from Odum, *Man's Quest for Social Guidance*, p. 555.

³¹ *The Social Sciences and Their Interrelations*.

tern, social rhythm and cycles, symbolical associations. *With Psychology*: Methodology, folk-psychology, social values, diffusionism, culture and culture areas, the individual and personality, the unconscious psycho-analysis. *With History*: Methodology, social history, American history, European history, the ancient orient, pre-history, the "science" of history, the "laws" of history. *With Political Science and Jurisprudence*: Methodology, political geography, development of man, the political animal, primitive behavior, freedom and liberty, concept of progress, general institutions, family law to social legislation, property, the state. *With Economics*: Beginning of economy and economic progress, division of labor, exchange of goods, property in land, increase in production, stages of economic progress, economic determinism, economic interpretation of primitive cultures, matriarchy and patriarchy, economic forces rather than technology, the whole field of wealth, correlation with natural and social phenomena, diversity of populations. *With Statistics*: Methodology, variables in individual form, backgrounds for variables, group variables, hereditary characteristics, racial types, ethnographical phenomena. *With Social Ethics*: General theories of morals, the rise of science and technology to reduce the influence of the primitive, evolution of morals, distinction between moral conceptions and practices and manners, economic, social, political, etc., relations, interpreting the emotional constant, economic determinism, individuality vs. society, whole problem of ethical progress, relativity and stability of morals.

Other Interrelations. In much the same way the several specialists undertake to show something of the interrelations between the other social sciences. Thus *Economics* with ethics, law, political science, psychology, statistics; *History* with economics, political science, psychology, sociology, and statistics; *Political science* with philosophy, psychology, statistics; *Sociology* with economics, ethics, law, political science, psychology, religion, statistics; while the *social sciences* in general are presented in relation to biology, education, the natural sciences, and philosophy. Thus the combinations and interrelations are as varied as are the problems, resources, and personnel. Of special importance, however, are the interrelations and new alignment of the social sciences in their application to existing social problems and situations. Social work, psychiatry, social legislation, public welfare, social planning, are all avenues through which the results of social research in the many disciplines may be utilized with effective unity.

A new statement of this sort of interdependency between social research and social action is that of *Neva R. Deardorf* and *Paul U. Kellogg*.³² 1. We look to government—national, state, municipal—for current and fundamental statistics. 2. We count on our social and health agencies to become more facile in the use of the facts of their work for current measurement of community conditions. 3. We turn to health demonstrations and similar centers of social invention to teach us how to work and create and at the same time observe intensively as we go. 4. We are setting up continuing research bodies, such as bureaus of municipal research and the research bureaus connected with the new welfare councils to broaden and sharpen our understanding of the common problems of the community and to analyze and synthesize facts as a basis for practicable solutions. 5. We employ community surveys and the specialized surveys to afford opportune assays of the group factors interrelated in the life of a community and to gauge the currents of a changing fluid situation. 6. We are establishing permanent research staffs, public and private, under one guise or another, to carry forward the many-branched inquiries in applied research that reveal the configuration of our national social problems, that appraise swiftly some focal aspect of them, or reach more searchingly to their roots. 7. We look to the social sciences for advances in techniques and ideology, and because of their very preoccupations in the practical field, the attitude of social workers is one of hospitality toward the prosecution of pure research under university auspices. 8. We are building not alone on the experience of social workers, but of engineers, architects, physicians and journalists in setting up organizations which link applied research with action, to the advantage of the common welfare. 9. We are awakening to the need, in our present and enlarged front of applied research, for a comparable development of the art of interpretation. 10. We seem to have entered upon a new stage in the dynamics of applying research.

The Promise of the Social Sciences. An important conclusion concerning both the development and interrelations of the social sciences is the fact that their progress and technique are growing out of actual situations and problems rather than from mere mental theorizings. They are developing because of and in accord with the modern social world, and their interrelations come logically from the recognition of the need for combined attack upon the social problem with the best methodology that all the social sciences can offer. The chief features of the present development

³² For the full discussion see *The Survey Graphic*, LX, 478.

appear to be an emphasis upon the "problem," a more effective alignment in the attack upon this problem, the recognition that the new interrelationship and alignment is needed even more in the utilization of the results of the social sciences than in the technique of discovery, and in the determination to utilize the most exacting of scientific methods but with adequate initiative and technique to apply to the human problem. In all these aspects of the present development there are differences of emphasis and method, hesitating and uncertain procedure, confusion and limitations in the promotion of social research, but withal a certain universal agreement concerning the need and opportunity for the social sciences and reasonable evidence that the problem is being attacked with energy and intelligence. There is some evidence to indicate that there will be a decade of orientation process, of experimentation and creative effort in the discovery of technique and ways of measuring social phenomena, and the struggle to attain the scientific spirit in matters of human concern, before the social sciences can reach consistent scientific proportions commensurate with the physical sciences.

CHAPTER V

THE RANGE OF SOCIAL RESEARCH

One way of viewing the range of social research is to interpret it as the scientific search for truth within the whole field of social relationships; social research, following the classical Pearsonian dictum, becomes co-terminous with social science, and its methodology becomes the methodology of social science as indicated in Chapter II. Thus, the field of social research includes the whole of society and its backgrounds, its knowledge and experience; the objectives of social research find no limitation short of the maximum extension of social science to discover and interpret truth and to achieve mastery. The limitations, therefore, of social research will be found only in the inadequacy of its method and the bounds of the human factor, both of which limitations are now the objects of social research. There are indications that the general problem of methodology can be solved; if then a special methodology can be worked out in such a way as to contribute also largely to the working out of the human factors in social research and interpretation, the "scientific-human" method will become effective in reality. Those aspects of the range of social research which apply to the general unity of science and society have been introduced in the early chapters on science and research and in the preceding chapter on the development and interrelation of the social sciences. We come now to consider the more concrete interpretation of the range and objectives of social research.

The Range of the Social Disciplines. Perhaps the most logical way of reviewing the range, methods, and objectives of social research is to examine the field, methods, and objectives of each special social science, since historically the development has come that way. What are the problems of history, of economics, of political science? What is the field of sociology, anthropology, social psychology? What approaches to the problems of human behavior have been involved in human geography, social biology, jurisprudence, social ethics? Approximate answers to these ques-

tions will be found in Chapters VI-XIV. In the meantime an effective index of the quality and quantity of social research may be indicated in other ways. One is in an exercise examining the aggregate of research projects and undertakings in each of the social sciences, directed by colleges and universities, individual professors, institutes, and agencies.

Concrete ways of measuring this output of research effort may be found in the analysis of contributed articles to scholarly journals and published monographs; in the list of research projects now under way in every social science department in the country; and in the lists of doctoral dissertations in each of the several fields. The list and titles of masters' theses throughout the United States form an aggregate of remarkable proportions and reflect the present range and status of elementary study on research. Occasionally a remarkable piece of work is produced in this way and promising students are launched upon effective careers of research. The classification of doctoral dissertations for a period of five years, presented below, must be considered only as a tentative exercise, since classifications have not yet been comprehensive or exact. Cultural anthropology and cultural sociology, for instance, usually will be listed in the same category. Likewise other subjects, such as labor or justice, fall easily in either economics or jurisprudence. A general classification, for the years 1920-24, for four disciplines in which data were available follows on page 73.¹

The Range of the Encyclopædia of the Social Sciences. Another illustration of the wide range, interrelations, and difficulties in the way of classifying subjects and problems of social research may be had from an examination of the tentative classification of subjects to be included in the new *Encyclopædia of the Social Sciences*, previously mentioned. Alvin Johnson, assistant editor, reminds us, however, that such a classification is used tentatively in order to promote intensive study and to secure specialized advice. It must be kept in mind, therefore, that such a classification is "only a vague approximation of the actual content of the encyclopædia." But as an exercise in the study of the reach of social subjects, it is illuminating.

¹ See also the annual lists of doctoral dissertations in the *American Economic Review*, *American Journal of Sociology*, *American Historical Review* and others. See further, lists of research projects under way in the several social sciences, e. g., Hornell Hart's list for the American Sociological Society in 1928, in *The American Journal of Sociology*, XXXIV, 758.

SPECIAL CLASSIFICATION, DOCTORAL DISSERTATIONS²

Classification	Sociology	Economics	History	Education	Total
Physical backgrounds	5	10	3	—	18
Social incidence	6	35	26	—	67
Individual and social differentiation	99	171	113	6	389
Personality and leadership	52	46	181	15	294
The home and family relationships	47	56	—	—	103
School and educational direction	22	34	114	195	365
The church and religious experiences	49	22	156	16	243
The state and political relationships	33	81	665	9	788
Industry, working conditions	56	286	291	10	643
Community and larger associations	125	327	134	8	594
Total	494	1,068	1,683	259	3,504

Sociology: General, sociological concepts and doctrines, social institutions, methods, including statistical; social stratification; population problems; family; woman in society; the rural community; the urban community; public health and safety; poverty and relief; disasters and relief; labor problems; child welfare; philanthropy; crime and punishment. *Economics:* General concepts, doctrines and systems, institutions; economic history; forms of economic organization; agriculture; land; industry and its technology; transportation, communication; business organization, finance and management, general; the market; credit and money; business cycles; international economics; foreign trade, shipping; government regulation of business; public finance. *Political Science and Politics:* Political science; comparative public law and government; legislation; administration; local government; American constitution; American government: national, state, and local; the party system; public opinion and the press; radicalism and radical movements; nationalism and nationalist movements; organized religion and religious movements; international relations. *Law:* Law in society; jurisprudence; legal history; legal analysis; legal machinery; judiciary and the judicial process. *Social Science Aspects of Related Dis-*

² Cf. F. W. Hoffer, "Five Years of Ph. D. Research in Economics and Sociology," *Social Forces*, IV, 74-77.

ciples: *Geographic environment; biology; anthropology and pre-history; history, concepts and methods, important stages of historic evolution, intellectual history, cultural history; psychology, individual and social psychology, abnormal psychology, applied and educational psychology; education, systems and administration, research and learning; philosophy and ethics; literature and art.*

The Range of Scientific Articles. The committee of the Social Science Research Council, planning for the new journal of *Social Science Abstracts* estimates that it may abstract as many as 20,000 articles the first year. The committee's preliminary study showed a wide variation of quantity and kind of periodicals and articles in America. Professor F. Stuart Chapin, chairman of the Committee, is working on the European list of journals, the preliminary list of which included 102 economic journals, 60 in the field of sociology, including some anthropology and psychology, 42 in political science, and 10 in statistics. The preliminary study of American periodicals was based upon 464, classified in accordance with the percentage of total articles which were judged significant articles, A. being 90 per cent to 100 per cent, B. 80 per cent to 90 per cent, etc.

The list itself is an illuminating one, covering more than ten pages of closely printed type. Forty-one of the periodicals have the adjective "American" as the leading index, while forty-two are "journals." The following is the classification.³

DISTRIBUTION OF PERIODICALS AND SIGNIFICANT ARTICLES

Grade of Periodicals	Periodicals		Significant Articles	
	No.	Per Cent	No.	Per Cent
A	12	3.2	313	5.7
B	6	1.3	184	3.4
C	7	1.5	187	3.4
D	13	2.8	211	3.9
E	18	3.9	322	5.9
F	18	3.9	294	5.4
G	39	8.4	715	13.1
H	51	11.0	646	11.8
I	99	21.3	1,246	22.8
J	198	42.6	1,351	24.7
Total	461	99.9	5,469	100.1

³ Quoted by permission from preliminary notes from F. Stuart Chapin, chairman of the Social Science Research Council Committee on Scientific Abstracts.

Research in the Humanistic and Social Sciences. Still another illustration of the range and nature of research in the social and humanistic sciences will be found in the recent volume prepared by Frederic A. Ogg, who appraises the present tendencies and gives an effective preliminary analysis of the whole field. He gives some data on 26 universities as research centers, 11 learned societies with general interests, 35 learned societies with particular interests, including the associations of the social sciences themselves, such as the American Economic Association, the American Sociological Society and the others. He describes some 34 private business and research organizations, such as the Metropolitan Life Insurance Company of New York, the American Bankers Association, the United States Chamber of Commerce, and the Manufacturers' Research Association.⁴

In addition to ten governmental departments, twelve commissions, ten foundations, and endowments, and other data, Professor Ogg describes other agencies, a partial list of which follows: *General Research Councils, Institutes, and Bureaus:* Social Science Research Council, New York City; National Research Council, Washington, D. C.; Local Community Research Committee, University of Chicago; Council for Research in the Social Sciences, Columbia University; Institute for Research in Social Science, Chapel Hill, North Carolina; Institute for Research in the Social Sciences, University of Virginia; and four others. *Research Institutes and Bureaus: History and Economics:* Department of Historical Research, Carnegie Institution of Washington, Washington, D. C.; Institute of Economics, Washington, D. C.; Institute for Research in Land Economics and Public Utilities, Chicago, Illinois; The Pollak Foundation for Economic Research, Newton, Massachusetts; California Economic Research Council, San Francisco, California; Bureau of Railway Economics, Washington, D. C.; and fourteen others. *Research Institutes and Bureaus: Political Science and Sociology:* Institute for Government Research, Washington, D. C.; National Institute of Public Administration (and Bureau of Municipal Research), New York City; Bureau of International Research, Harvard University and Radcliffe College; Bureau of Government, Amherst College; Political Research Bureau of the Republican County Committee of New York, New York City; Bureau

⁴ Cf. *Research in the Humanistic and Social Sciences*. Also, see Edwin R. Embree's list of "Fifty American Foundations and Their Purposes" with a total fund of over one billion dollars, in the *Annual Report* of The Julius Rosenwald Fund, 1928.

for Municipal Research, Harvard University; and sixteen others. *Miscellaneous National and Local Organizations*: Alexander Hamilton Institute, New York City; Alice Mandelick Flagler Foundation, New York City; Amalgamated Clothing Workers of America, New York City; American Arbitration Association, New York City; American Association for Organizing Family Social Work, New York City; American Child Health Association, New York City; and fifty-seven others.

The Social Science Research Council Range. The plan of this volume emphasizes the interrelated aspects of social research, rather than the isolated techniques. Thus the objectives and range of research efforts encompass the methodology involved in the coöperative techniques of the several social sciences as well as their individual and special contributions. We shall therefore look at the range and objectives through the avenue of the "problem,"—the research problem, the social problem, with all possible implications and complexities,—which awaits the joint attack of all methods of whatever disciplines may be needed. This approach is well illustrated by the program of the Social Science Research Council and by some of their examples of typical social problems which require the joint efforts of more than one social science. In addition to the full committees of the Council, there are advisory committees whose work illustrates the procedure of the Council in fostering the joint attack upon social problems. These include: *Advisory Committee on Corporate Relations*; *Advisory Committee on Crime*; *Advisory Committee on Cultural Areas*; *Advisory Committee on Industrial Relations*; *Advisory Committee on International Relations*; *Advisory Committee on Interracial Relations*; *Advisory Committee on Pioneer Belts*; *Advisory Committee on Population*; *Advisory Committee on Social and Economic Research in Agriculture*.⁵

Population as an Example. Continuing the emphasis of the Social Science Research Council, a specific problem of population may be taken to illustrate the wide range of social research involved. The Advisory Committee on Population, for example, in seeking information on the fields of population research includes "research dealing with population groups, their elements, characteristics, qualities, activities, and changes, whether made by the statistical, historical, descriptive, or other methods. Their

⁵ The Social Science Research Council, *Annual Report*, 1927, pp. 25-31. See also the annual report for 1928 which indicates further progress and developments.

list of suggestions for information specifies coöperative efforts in such fields as "demography, geography, health, anthropology, sociology, philanthropy, economics, and psychology."

The ten general groupings, listed by the committee include:

- 1. Population and its changes; population theory; mortality; births and birth rates, causes of decline in birth rate (birth control); expectation of life, life extension; geographical changes of population, immigration, internal migration.
- 2. Man in relation to geography, density of population, city growth, city and regional planning, distribution of population; population optima and maxima; food supply, natural and economic resources; resources in relation to population.
- 3. Morbidity, sickness, and health surveys, with special reference to efficiency of population.
- 4. Races and nationalities, Negroes, Indians, Mexicans, Asiatics, Nordics, Mediterraneans; racial composition of population; eugenics, segregation of feeble-minded, marriage restrictions, race poisons, race development.
- 5. Families, marriage, divorce, illegitimacy, children; effect of social conditions upon birth rate.
- 6. Defectives, blind, deaf, crippled, mental defectives, insane, paupers; institutional population.
- 7. Standards of living, wages, and size of family, economic classes, occupations, employment of women; relation of economic conditions to population.
- 8. Mental efficiency, alertness, mental health, mental deficiency, mental testing; aptitudes, and personality development; mental quality of population.
- 9. Education, training, literacy, citizenship, and naturalization, religion of the population.
- 10. Disasters, such as floods, earthquakes, conflagrations, famine, war, pestilence, in relation to population.

War as an Example. Other "problems" may be studied as exercises in interpretation. War has, for a long time, constituted a major problem of society, peculiarly difficult and continuous. Attempts to work out a satisfactory solution illustrate well the old isolated method of attack and the urgent need for coöperative research and effort. War is not a problem of religion and conflict; nor of economic relations; nor of territorial conflict; nor of political diplomacy; nor of races and nations; nor of idealistic and utopian solutions. War is all of these and more, and as yet no first-rate, comprehensive studies have ever been made of these larger aspects. The point of view may be illustrated by calling attention to the futility of understanding or of eliminating war so long as *every single major institution of society has in the past and does now promote war through fundamental avenues of structure and function.* That

is, so long as the family, through its mothers, daughters, men, and sanctions, makes war a supreme value; so long as the church and religion esteem the fighting process supreme; or the schools of the country magnify military values; or industry promotes primary competition; or the community ranks military and political patriotism first; wishful attacks upon the problem will prove to be unusually futile. What then are the basic deficiencies in knowledge of war and technique of control to which coöperative social research may be directed? How can the estimated cost of the World War at one thousand billion dollars be emphasized in terms, not only of physical and economic backgrounds and costs, but in terms of every known social value?

The problem here as elsewhere is one of attacking war as a complete social problem, utilizing all of the social sciences necessary and directed into every elemental background and relationship from which war has its genesis and power. Such an inquiry, following the tentative twelvefold classification of social elements already listed, would include: 1. The place of geographical and physical features in the whole pattern of war—historical and analytical studies, with concrete case and statistical methods. 2. The place of social incidence, accidents in the international machinery, the murder of kings and princes and presidents and rulers, the rôle of mob and mass and the uncontrolled sweep of the unexpected in the genesis of war. The problem of future control. 3. The rush and sweep of social and economic change in conflict between East and West, nation and nation, race and race, to transcend normal powers of control which ordinarily might not lead to war. 4. The power of demagogic leadership, propaganda, and parties in the making of wars in the past, and the place of leadership in the modern international situation. 5. What are the folkways of war and how has war evolved along with society? What has been the place of class conflict and race struggle in the development and perpetuation of war? 6. What are the historical elements and the present factors in the home and family relationships, in the population problem and in the protection-of-the-home pattern of society which promotes war? 7. To what extent have social theory, the school curriculum, the teaching of history, military training and prevailing concepts of patriotism promoted war? 8. What part has religion and religious conflict played in the history of war and to what extent has the modern church in the western world been instrumental in war promoting? 9. What has been the part played by political theory and statecraft in

stimulating war and what methods of research may be utilized to discover these factors, especially in the documents of the modern world? 10. What are the economic bases of war in the past, what further studies of economic rivalries can be made, and what is the relation of modern business and the concept of prosperity to war? 11. To what extent in the modern world do the moving picture, the radio, the newspaper, community patriotism and institutional organizations stimulate the war spirit? 12. What is the rôle of modern physical science in the promotion or prevention of war and what are the scientific ways of studying the problem and of eliminating the war hazard? What have the social scientists done in research or creative effort to contribute to the problem? To what extent may we expect success from such comprehensive attempts to study war as those of the Carnegie International Endowment for Peace, and the American Council Institute of Pacific Relations? To what extent can social experimentation succeed in such a field?

The Family as a Composite Problem. Another composite problem illustrating the joint attack of the social sciences and their several approaches and methods is the family, which has taken an important place among the major fields of social research. So varied are its aspects, so complex its relationships, and so numerous its contacts—touching every phase of society—that it would be quite impossible for a sociologist, an economist, an historian, a psychologist, or a specialist in any narrowly confined field to make a complete study of the family or even of a family. There is probably not a discipline in the social sciences that would not consider the family legitimate for research in its own special field; and in more than one instance will be found what may be termed overlapping fields of interest. In a consideration of the need for coördination of the social sciences, no better example can be found. The rise and development of the primitive family may well be held by the anthropologist as his particular province, while the social historian will be interested to trace its later growth and ramifications. And the family today—its organization and disorganization, its place and functions as a primary group in the social structure, the individuals who compose the family and their varying relationships one to another, the factors entering into heredity, the vast number of economic and legal problems involved, and a host of other aspects too numerous to enumerate here—com-

mand the attention of the economist, the sociologist, the psychologist, the biologist, and the jurist. The family, too, is well adapted to the various methods of approach in research—the descriptive, the anthropological, the historical, the biological, the psychological, the case history, the experimental, the statistical—each of which, alone or in combination, may be used advantageously in studying its origin, development, organization, status, and problems.⁶

Probably the historical approach is most common in the background studies of the family, although the anthropological and the biological approaches have not been neglected. And these studies are not to be passed over lightly, for they furnish valuable background material and afford a basis for helpful understanding of present family organization, even though none of them explains satisfactorily the family under the changing conditions of modern life. For example, Robert Briffault in *The Mothers*, and Sumner and Keller in Volume III of their recently published *Science of Society*, have made invaluable contributions through their study and presentation of the origin and development of the family among primitive peoples. Paul Popenoe in *The Conservation of the Family* has given us a strictly biological study in defense and support of the present monogamous system. But, until very recently, probably the most popular approach was the historical such as Westermarck's *History of Human Marriage*—an historical study of the evolution of the human family. In 1915 (revised in 1923), there appeared Miss Goodsell's *History of the Family as a Social and Educational Institution* in which a sociological slant modifies the strictly historical approach. *The Family and Its Members* by Anna Garlin Spencer, published in 1923, adds the biological to the sociological and historical points of view, with the major emphasis on abnormalities—the genius, defective children, the child born out of wedlock and the unmarried mother, divorce, and others. These are but a few of the many valuable background studies of the family, a list of which includes Bosanquet, *The Family*; Calhoun, *A Social History of the American Family*; Dealey, *The Family in Its Sociological Aspects*; Howard, *A History of Matrimonial Institutions*; Thomas and Znaniecki, *The Polish Peasant in Europe and America*; Thwing and Thwing, *The Family: An Historical and Social Study*, and others.⁷ Another phase of family research is that in which Chase Going Woodhouse presents a tentative outline and more than sixty

⁶ See also Katharine Jocher, "Methods of Research in Studying the Family," *The Family*, IX, 80-85.

⁷ *Ibid.*

examples of social research into the economic and social problems of the home. These are listed under several divisions:⁸

- a. *Societal Factors as they Influence the Home:* Economic, special social institutions and agencies connected with them, social attitudes, traditions, and public opinion.
- b. *Consumptive Factors as they Influence the Home:* Standard of living, consumptive processes and theories, consumer protection and the improvement of consumption, theory of consumption and the philosophy of life.
- c. *Household Production Factors as they Influence the Home:* Description and evaluation of methods, the economic value of time, transfer of production from home to outside agencies.
- d. *Distribution and Management of Wealth and Income in the Home:* The influence of the source of wealth and income, control by various members of the family, financial status of members, methods of budgeting and accounting, methods of family financing, methods of investment, and methods of transferring property.
- e. *Family Relations:* Size, composition, and organization of family, functions of the family, marriage, stability of family, conservation of the family, home environment, evaluation of family life and standards, methods of research.

Southern Regional Social Study and Research. One of the best illustrations of the range and objectives of social study and research may well be found in the newer types of regional approach, which will be used in the volume for occasional, concrete examples. In the first place, the regional approach views a given society as a whole, and enables all of the social sciences to contribute. In the second place, it offers a concrete laboratory through which practically all of the present trends in social research may be applied. At the same time it provides for adequate delimitation of areas and scope and extends the range for quantitative effort to discover *new* facts. It is in accord with a considerable tendency to emphasize regions and community and with a number of the projects and programs of the Social Science Research Council. It is therefore concrete in the actual beginnings in a number of instances. The Southern Region is selected as an example for this volume because it is representative of a comprehensive social situation, because it lies within the field of attainable methods, and because concrete beginnings have been made. It must be clear, however, that one of the merits of this approach is that it may be applied to any other region, and that the tests of its validity and the expert-

⁸ "Economic and Social Problems of the Home," *Journal of Home Economics*, 20, pp. 187-193.

ness of the social science specialist will lie in the task of attacking, changing, and reworking to fit other areas. If the regional plan is not worked out in accordance with standard values, methods, and applications, it is not an effective illustration. Common sense and expertness dictate several natural assumptions. The term "region" must be well defined to combine geography and cultural factors. That is, in the Southern States described as a section in accordance with legislative and historical development, there are manifestly sub-social regions. It is understood that details, technique, and delimitation here will be taken care of in any real scientific approach. The twelve elementary divisions under which problems are classified are not exclusively final, but are offered for very practical purposes of classification, such as have already been explained. The types of approach and method in the study of these regional problems can be tested and applied as efficiently as in any abstract problem. Thus the philosophical, the general analogical, the psychological, the biological, the anthropological, the politico-juristic, the economic, the sociological, and the historical approaches, and the experimental, the case, the survey, the statistical, and the scientific-human methods will all become a part of the unity of the research problem. If the list appears to consist largely of projects of the "negative" or "problem" nature, it should be remembered that research seeks oftenest to find out, not about things that have already been done well, except in so far as they have meaning for present or future "problems." It seeks rather truth, about the new, the difficult, the deficient,—the "problem." It must be clear also that the problems listed must be limited in number and phraseology for the purposes of space and tabulation. Common sense will, of course, assume that all problems will be defined, delimited, and concretely outlined, and that the hundred and twenty topic-problems listed here are representative of scores of others, some more concrete, some more composite. The southern regional approach may be illustrated by the following list of problems which is based upon the classification of elementary groupings as given in Chapter III, with selections of *available problems* in the Southern United States, limited to ten in each elemental division.⁹

⁹ The southern regional approach to social research may be illustrated in other ways. One is an analysis of what might be called social resources and social waste. Another is the classification of "problems" into groups conforming to "practical"

Physical Backgrounds: Ecological studies of regional subdivisions in the American South, human factors in cotton culture, diet in relation to intellectual work and creative effort, the utilization of science in the mastery of physical environment, social resources in climate, the range of natural resources, measures of agricultural and economic waste, aspects of political geography, isolation and social experience, biological backgrounds of culture patterns, the group of climatic and natural resources, the growth of southern cities. *Social Incidence:* The war between the states and population depletion, after-war poverty and southern social development, the World War and diffusion of culture-contacts in the South, the Ku Klux Klan and southern standards of moral leadership, the mob-action pattern of the southern states, the boll weevil and the rise of crop diversification, the story of yellow fever for the last half century, the phenomenon of the Florida land boom, Miami and the 1926 hurricanes, the rate of homicide in the South. *Social Change:* The war between the states as a product of failure to meet social change, the social history of the South, the conservatism pattern of the South, studies in social lag, the effect of the Negro's progress and education upon southern racial relations, the South's changing attitude toward woman, survival values in the institutional character of the Old South, social conflict in the New South Florida, studies in the Industrial Revolution in the South, studies in the political "Solid South," the South's new contribution to American drama and literature. *Individual and Social Differentiation:* Studies of southern "classes," the caste system between the races, the South's attitude toward woman, studies in southern child

or natural divisions of study such as folk-background studies, those including both the Negro and the white folk-groups; historical and cultural backgrounds, industrial development and revolution; institutional and public welfare problems, problems of government and politics.

Another way of evaluating the regional research is to view it as regional portraiture though which regional facts may be discovered and set forth as a sort of artistic realism or scientific description. Thus concrete regional data may be presented but also universal experience and generic truths may be set forth in terms of regional patterns or portraiture. Thus the folk- and culture-background studies provide valuable materials and methods in the field between conventional anthropology and conventional sociology. Quite a different, but still related view of regionalism is presented by N. S. B. Gras in *Foreign Affairs*, VII, 454-467, in which he discusses especially metropolitan regionalism growing from the cultural, economic, ethnic, climatic, political. Especially related to the Southern Regional Research illustrations is his suggestion that Atlanta may well become the center of the new Southeastern Metropolitan regionalism. In general he concludes that in the "emancipation of the social sciences from political prepossession and domination, the growth of regionalism, born of the need of a nicer adjustment of man to his immediate environment, will probably play a prominent part."

labor, studies in Nordic stocks, studies of the mill village population, farm tenancy in the South, studies of the Black Belt, folk background studies of the Negro, the changing Negro, folk-music survivals of the White South, studies of Negro leaders in the South. *Personality and Leadership:* The rating in southern communities of successful folk of northern birth, the South's quota of past presidents of the United States, the South's leadership in congress, the problem of the demagogues in the South, the migration of southern leaders to other states, measuring the present South's experience and training for leadership, the continuity between leadership of the Old South and of the New, studies in the leadership of the church, studies of Henry Grady, Tom Watson, and John Temple Graves of Georgia; Walter Hines Page, McIver, and Aycock of North Carolina; L. Q. C. Lamar, John Sharp Williams, and Vardaman in Mississippi. *Home and Family Relationships:* Studies in standards of living, studies in dietetics and home hygiene, birth rates and death rates of children, studies of marriage and divorce, studies in the size and occupation of families, books and reading in the home, family savings accounts, the single standard of morality, the homicide record of the South, standards of Negro family life, studies in child welfare and dependency, studies of woman in the home and in industry. *The School and Education:* The phenomenal growth of the southern public school system, the growth of colleges and universities, the place of the denominational college in southern development, a study of a half century of southern illiteracy, the growth of Negro schools and colleges, the conflict between science and religion, the social sciences in the southern curriculum, the deficiency of universities in the South, conflict of trustees and educational administration, the university in the South, conflict of trustees and educational administration, the university and the business and professional man, the place of Negro studies in college and university research and curriculum. *The State and Political Relationships:* Case studies of southern governors, the theory and practice of states rights, a study of the working of the 14th or 15th amendment in the South, a study of the theory and practice of the 18th amendment, the rôle of the Protestant Churches in politics during the last quarter century, a history of politics in Georgia since 1880, a history of politics in North Carolina since 1880, a history of politics in Mississippi since 1880, a study of state issues in southern democratic primaries, the rôle of the Ku Klux Klan in state and local government, the county and its government, case studies of political situations, the social and economic effect of getting the Negro out of politics. *The Church and Religious Experience:* The conflict between

fundamentalism and modernism, the rôle of the church paper in creating southern public opinion, the Protestant Churches and the Ku Klux Klan, the church program: individual religion and social reform, the churches and the Negro, hymnology in southern culture patterns, the church as a divisive factor in community life, case studies of professional revivalists, case studies of great southern religious leaders, the church as a training school for southern leaders, the development of coöperative enterprise—local and denominational.

Industry and Working Conditions: The development of southern textiles, studies of the money-crops economy of the South, labor resources of the South, the development of labor unions in the South, the history of welfare work in the textile South, the South and the diversification of crops, the South and its mineral resources, regional railroad banking and manufacturing centers in the South, the problems of child labor, studies in per capita wealth and savings, the special economic status of the Negro.

The Community and Larger Associational Relationship: Case studies of outstanding newspaper influence, ecological studies of physical and social isolation, social attitudes toward foreign born citizens, southern attitudes toward the eastern and western states, one hundred per cent "Americanism," the South and its fraternal organizations, solidarity and internal conflict, studies of southern philanthropy, studies of the "golden" and "inferiority" complexes, studies of accommodation and assimilation, studies in loyalty and patriotism, the effect of the Negro on *all kinds* (aggregate) of legislation.

Social Science and Social Guidance: The status of engineering in the building of the South, medicine and public health, science and agriculture, science and religion in social emphasis, the progress of social work programs, a study of state conferences of social work, the city planning movement in the South, state systems of public welfare in the South, studies of the mentally deficient, studies in open-minded scientific attitudes.

Illustrated by a Special Regional Problem. Something of the tremendous range and sweep of such a regional program may be seen from the detailed examination of a single topic, such as for instance *folk background studies* cited in detail in Chapter XXIV, or the phenomenal industrial development of recent years. Manifestly, these and other research projects are generic and universal in their scientific application and value, provided they are followed out with scientific method and success. Within a single general problem of social-industrial relationships, scores of concrete projects are available, challenging the best methodology that the social

sciences can offer. Here is a long-time program, a program calling for many social disciplines, requiring all the types of approach and method, and yet at the same time offering ample opportunity for the most minute, concrete, and exhaustive research into selected details of the problem. The classification below is tentative and typical of the range of social research which may be available in the regional problem of Social-Industrial Relationships in the Textile South of the United States.

The complete program will include inquiry into three main aspects: First, primarily *research and study*; second, *social interpretation and direction*; third, *organization, methods, and procedure*.

I. Economic Status of the Industry: History of the textile industry, North, South; localization, North, South; minor factors of climate, capital, taxes, etc., and major factors of power, raw materials, labor, markets, present status of the industry, North, South, details. *Economic Future of the Industry:* Will the South continue to grow at present rate in character of industry? Will industrial history repeat itself, economic and industrial relations? Will the North continue to grow, remain static, or decline? Future of American textile industry. *The Social Population:* Size and description, eugenic studies. Social and physical heredity. *Industrial Relations:* Personnel problems, labor turnover; unions: number and membership, attitude of workers, attitude of employers. *General Economic Factors:* Personal and family status, housing of workers, general labor conditions.¹⁰ *Community Work:* History of development of social work in industry, programs, leadership, isolation and segregation, number and distribution of services, use of leisure time, local measures of efficiency of program. *Community Control and Democracy:* Government, control through houses: reasons for vacating; experiments in industrial democracy, voting and civic participation. *Education:* General status, school conditions, curriculum. *Health Situation:* Mental health, general deficiency; physical health, general mortality and morbidity facts, special

¹⁰ Under each of these general subdivisions, of course, the detailed outline of the study will show many other subdivisions, allowing for still other concrete studies of great variety and efficiency. Under personnel problems, for instance, will be such inquiries as: Recruiting and probable labor supply, training and promotion, working conditions (score), safety, accidents, and compensation, production—efficiency compared with New England, evidences of mutual suspicion, unemployment, child labor. Under labor turnover will be: Percentages, reasons, trades, length of service, company housed vs. home-owners, turnover by families, cost of turnover, time lost by employees on account of turnover, and so throughout the other subdivisions the range of detail is equally notable.

diseases. *Social Morality*: General morality, crime, codes of conduct; sex morality.

II. Service Program: Systematic reports to coöperating plants and social workers, collection of data on industrial-social problems: reference material, books, pamphlets, mill data, of interest to mills and students, on call, disseminate information collected; staff to study problems submitted by manufacturers, social agencies or individuals, if worthy of study; summer institutes for industrial-social workers. *Standards and Values*: Comparison with conditions before coming to the mills, comparison with average in South, comparison with other industrial workers in South and other sections. *Social Change and Direction*: Social class consciousness, economic class consciousness-capital vs. labor strife; inferior, equal or superior type. *Standards in all Aspects of Work*.

III. Colleges and Universities (e.g. those already undertaking or planning such inquiry): University of Pennsylvania (Labor Mobility Studies—see published reports), Brown University (Labor Mobility Studies—see published reports and program), University of North Carolina, Institute for Research in Social Science (see separate program), Brookings Graduate School, institutions with graduate research, institutions planning industrial-social studies, others. *Research and Social Agencies* (with partial programs of industrial research and possible duplication): Research agencies, commercial agencies, social agencies, labor agencies, governmental agencies. *Manufacturers*: Research institutes, executive associations, service groups, social work agencies, others.

Applied to Special Approaches and Methods. This range of social research and the close interrelation of the several social sciences in joint attack will be illustrated further with suggested applications at the end of many of the chapters which deal with various approaches, methods, and procedures. That is, the special problems of population, war, the family, and regional studies, cited for constant illustration in this volume, may well serve as examples for illustrating the practical application of the several approaches and methods. Such application will reveal further both the range and complexity of social research and will serve to test the validity of our analysis and treatment of various aspects of the subject. In general, therefore, we shall at the end of each chapter seek to suggest aspects of the special problems which either have been studied or may effectively be studied through the particular approach, method, or procedure being considered. And in certain chapters, such as those on "The Experimental Method"

and "Social Analysis," more detailed examples will be cited, such as the extensive studies on pioneer belts and culture areas, and specific projects in the southern area which offer exceptional opportunity for social analysis and for permanent contributions to social research data and methods. And while in this volume our purpose is merely to "state the case" and illustrate it briefly in each instance, there is ample opportunity for as extensive development of each case as may be desired for exhaustive analysis or intensive study. If the problems selected are major problems, and if the types of approach and method are fundamental and have been well presented, the applications become merely a matter of selection and inclusion.

Their application may be further tested, however, by one generic example in the larger field, namely, that of coöperative research. We have emphasized the interrelations and new alignment of the social sciences and have made our general estimate of the range of social research on the basis of joint attack upon social problems by all disciplines available, both in the techniques of investigation and in the use of data. This joint attack in no way minimizes the importance of specialization and of increasingly high standards of scientific research. On the contrary, all contributions will stand upon their merits and in addition upon the validity of their relational values. Much the same issue is involved in the problem of coöperative research. That is, it must be clear that groups of individuals, or of organizations, working on the same problems, with well defined objectives and procedures, can go much further in the attainment of both quantitative and qualitative results than can isolated individuals. It must be clear, however, that in the working out of many of the concrete units even within the coöperative program there will be no diminution of the skill and power of the individual. Nor will there be inclination to minimize the stimulus of professional recognition wherever major pieces of research are being done. Indeed coöperative research ought to go far toward "discovering" and developing individuals of real ability and toward extending the range of their opportunities. And it does not preclude the fullest development of individual genius and effort. Coöperative research, on the other hand, may accomplish greater results in the working out of long-time programs, in more adequate planning, in securing of resources, in the utilization and training of a larger body of younger research specialists and in other ways. Such programs, developed skilfully, may contribute largely to both the actual analysis of data and to the devising of better methods and

techniques of social analysis and synthesis. This may be done, among other ways, through real research conferences in which only those who are actually at work come together to consider the meaning of data and the extension of method. The timeliness of each program would be considered on its own merits and would depend upon the nature of the research and of the resources and personnel involved. Accordingly, illustrations of this sort of coöperative program may be provided at will from the whole field of social research. We may illustrate, however, here with two, one emphasizing method as a basis for selection, and the other emphasizing problems. In the former, we select from the statistical, the survey, and the case methods in which to suggest a remarkable opportunity for coöperative research. Again within these methods we emphasize the notable statistical and survey program of Franklin H. Giddings in which he urges the extension of these methods to the quantitative formulation of societal energies, ascertained for entire populations, for component and constituent groups, for color races, for native and foreign born, for nationalities, for local communities, for kindreds and families, for adherents to religious sects and others. For the case method there is emphasized a similar extension to a more thorough study of the individual, the family, the neighborhood, non-civilized tribes, culture areas, historical epochs, politically or religiously organized populations, the degeneration of populations, or epochs in historical settings.¹¹ The value of the coöperative plan here is evident: here are opportunities to devise and to apply genuine scientific method of unprecedented proportions to fundamental phenomena, with a certain uniformity and constancy, over wide areas and in varying subjects. Manifestly no large body of scientific knowledge will soon be gathered together unless some such coöperative plan is employed. The application might be made to a regional situation, such as the southern area, which can easily be delimited and unified. Application, again, might be made to a regional situation with the emphasis upon the problem. Thus, in the Southern States, a coöperative plan, working, state by state, or by other subdivisional units, might do notable research in any number of social problems the results of which would have validity to all social research. Examples are the study of *state governments, political leadership, elections, general economic and agricultural status, economic status of the Negro, problems of taxation, criminal justice, community analyses, the relation of diet, climate, or geography to physical and mental effort, or of various culture patterns and their interrelation with physical and social environment.*

¹¹ See Chapters XV, XVI, and XVIII.

CHAPTER VI

TYPES OF APPROACH: THE PHILOSOPHICAL

The General Approach. In previous chapters we have developed the general approach to social study and research by considering fundamental meanings of science, the key place which it holds and has held in the total human search for truth and adjustment, the scientific basis upon which modern society and social development have been built, the general nature and requirements of scientific method and research, and some of the general interrelations and differences between the social sciences and the physical sciences. We have considered further the rapid development of the social sciences and their closer relationships one with another, as well as with the physical sciences, alongside the wide range of research which they encompass. We have noted the two chief problems of social research—the problem of method and the problem of the human factor and objectives. We come now to the consideration of the general aspects of method as found in the variety and fundamentals of certain conventional types of approach, leaving the problem of human factors for later treatment.

A Special Classification. In the discussions of approach and method which follow there is no exclusive order in which the several types must be presented, although the present scheme appears to conform to a somewhat satisfactory and logical arrangement. Likewise, the classification must necessarily allow of overlappings and interrelationships between different methods, the descriptions of which at the same time are approximate and relational rather than exact and absolute. What is intended is that the classification will permit of a fair description of historical and current types of method and approach to the comprehensive study of human society, making due allowances for other classifications and judgments and for ample distinction between method and approach, on the one hand, and tools and methods on the other, and for final synthesis so far as may be possible at this stage of the development of the social sciences. The approximate na-

ture of the terms, as characterized in Chapter II, must also be kept constantly in mind. Thus, the classification begins with the more historical types of approach, the *philosophical* and the *general analogical*. These are followed by types of approach which conform in general to the social science disciplines, but also which have comparative and analogical aspects as well as more concrete contributions through their peculiar technique and data. These include the *biological*, the *psychological*, the *anthropological*, the *politico-juristic*, the *economic*, the *sociological*, and the *historical*, which also ranks as a general method. These chapters are in reality only "approaches" and make no effort to "outline" the several social sciences.¹ These in turn are followed by the more recently developed and different types of objective methods as found in the *case*, the *survey*, the *experimental*, and the broadening reach and technique of *statistics*, method of its own and tool alike for all approaches and methods. Finally, the *scientific-human* "method" represents a summary and integration of various composite concepts of method and scope in social study and attempts so far as possible to evaluate and to magnify the essence and spirit of the social-scientific method as specifically required in human research.

The Philosophical Approach. The philosophical approach to the study of human society is the logical beginning of our study of types of approach because of its priority and historical status, because of its current sensitivity to all science, and especially the social sciences, and because of its still widening and vivifying hold upon life and literature in the modern world. It must be clear that the way of philosophy has had a large place in the whole search for satisfying explanations about man and his relations to his environment. Historically and quantitatively, indeed, the philosophical approach has been set over against all of the scientific methods as one of the fundamental ways, the most universal of all methods of seeking truth. It has been forerunner and pioneer of the sciences, it has again taken up the trail where science found its limitations, and still again has provided much media and method

¹ It should be kept in mind also that this list of "approaches" is in no sense a series of steps or stages or technics through which social research must proceed, but rather constitutes a descriptive general analysis of the status of social science in its major developments.

for the exposition of the validity of science itself. For the purposes of this volume, we may look at the philosophical approach to the study of society from several viewpoints. First of all, there is its relationship to science, originally including all the sciences, both physical and social. Second, there is its preëminent contribution to the field of social theory in which it may be said to represent man's supreme effort subjectively and reflectively to find out about himself and his environment. It has then made definite contributions to method through its logical approaches to study and thinking. And, again, much of current modern-day popular interest in any study of society is centered around the philosophical backgrounds and objectives, especially as related to the determination and measurement of social values and standards and their future projection upon society. Finally, in the midst of the increasing complexities of relationships in the world of men and affairs the philosophical approach is of great importance to the intellectual phases of human culture and the discovery and utilization of human experience.

John Dewey thinks that "those who are able to pursue the road of that technical and refined knowledge called science are fortunate. But the history of thought shows how easy it is for them to forget that science is after all an art, a matter of perfected skill in conducting inquiry; while it reveals that those who are not directly engaged in the use of this art readily take science to be something finished, absolute in itself, instead of the result of a certain technique. Consequently, scientific philosophies have over and over again made the science of their own day the premises of philosophy only to have them undermined by later science."² *Nicholas J. Spykman* calls attention to the relation of science to philosophy in a sort of provisional hypothesis, taking "in a tentative grasp what is as yet unprovable and combines in inclusive concepts what is as yet unobservable as single facts. With these it draws pictures of the world which will be partially confirmed, partially refuted by methodological empiricism, but which are none the less the first approaches to knowledge."³ And *Bertrand Russell*, himself mathematician and philosopher, claims that "the greatest men who have been philosophers have felt the need both of science and of mysticism: the attempt to harmonize the two was what made their life, and what always must, for all its arduous uncertainty, make phi-

² Joseph Ratner, *The Philosophy of John Dewey*, ch. i.

³ *The Social Theory of Georg Simmel*, p. 14.

losophy, to some minds, a greater thing than either science or religion. But scientific philosophy comes nearer to objectivity than any other human pursuit, and gives us, therefore, the closest constant and the most intimate relation with the outer world that is possible to achieve.”⁴ And again, “Scientific philosophy thus represents, though as yet only in a nascent condition, a higher form of thought than any prescientific belief or imagination and, like every approach to self-transcendence, it brings with it a rich reward in increase of scope and breadth and comprehension. Evolutionism, in spite of its appeals to particular scientific facts, fails to be a truly scientific philosophy because of its slavery to time, its ethical preoccupations, and its predominant interest in our mundane concerns and destiny. A truly scientific philosophy will be more humble, more piecemeal, more arduous, offering less glitter of outward mirage to flatter fallacious hopes, but more indifferent to fate, and more capable of accepting the world without the tyrannous imposition of our human and temporary demands.”⁵

Philosophy and Science. Philosophy and science reveal much in common and much that is widely dissimilar. Here again, as throughout this volume, we must recognize relational factors and the limitations of all attempts toward absolute definitions; and must conform to the broader principles of scientific method in allowing for differences and likeness, for specialization and universality, in both method and content. Such likeness and similarity, however, accentuate the importance of a comprehensive understanding of the meaning and method of science, especially of the development and interrelation of the social sciences. For none of the social sciences has come to satisfactory terms with itself and each is seeking the way forward. Taking up the common concepts of science as knowledge, as method, as hypothesis, as relationship, as thinking, as well as other common interpretations, it is clear that in philosophy we start with much of the common quality. Many scientists have been both philosophers and scientists and not infrequently have not distinguished between their methods of approach. Some have claimed that it is not always possible to distinguish completely between science and philosophy, while others have attempted to show how all science rests upon a metaphysical basis. Philosophy was long reputed to be the *scientia scientorum* just as religion was at times held to be the chiefest sci-

⁴ *Selected Papers*, p. 16.

⁵ *Ibid.*, p. 55.

ence, and even now, says Joseph K. Hart, "science must have a philosophy."⁶

Knowledge, after all, is the chief business of the inquiring philosopher. To *Plato's* assertion that wonder lies at the root of philosophy, the scientist claims a similar basis. "Philosophy, then," asserts *Henry Sidgwick* "aims at putting together the parts of knowledge into a systematic whole," to which *F. B. Jevons* objects, because philosophy existed before knowledge and its purpose is really to discover reality.⁷ *E. A. Burtt* has it that "the main current of speculative inquiry from *Descartes* onward has been permeated with the conviction that investigation into the nature and possibility of knowledge forms a necessary attack upon other ultimate issues."⁸ And even *Bacon's* "original inspiration had been his respect for method, and this grew more pronounced. Philosophy, i. e., science, is method. With Bacon we see the beginning of philosophy cut loose from personality and overvalued because it had mechanical accuracy."⁹ *E. C. Lindeman* emphasizes the similarity between science and philosophy in relation to method and technique of social discovery. Even a partial critique of the method must proceed upon lines which are both scientific and philosophical. Scientists and philosophers alike base their inquiries upon essence, mode, causality, end, space, time, number, and relation.¹⁰ Although both scientific and philosophical approaches are to be made to the critique of methods it is not assumed that there is a fundamental cleavage between these two viewpoints. On the contrary, the precise position herein hazarded is that these two viewpoints tend to merge. Good science eventually becomes philosophical and good philosophy is scientific. *Charles H. Cooley* says, "Philosophy may be either science or art, or both, or neither. There is a sort that is impersonal, verifiable and cumulative, a large view of science, good to build on but-not otherwise of much interest; another that is personal and of a speculative beauty; a third that is perhaps neither enduring nor beautiful, but influential for a particular state of thought."¹¹ And *William P. Montague* sees the history of science and philosophy as "the history of humanity's unending struggle to attain a life of reason and to free itself from the tyranny of the past."¹²

⁶ *Inside Experience*, ch. i.

⁷ "The Purpose of Philosophy," *Journal of Philosophical Studies*, I, 69-77.

⁸ *The Metaphysical Foundations of Modern Science*, ch. i.

⁹ *H. E. Cushman, A Beginner's History of Philosophy*, II, 44.

¹⁰ *Social Discovery*, pp. 31-33.

¹¹ *Life and the Student*, p. 147.

¹² *W. F. Ogburn and Alexander Goldenweiser, The Social Sciences and Their Interrelations*, ch. xxiv.

Philosophy as Prologue and Epilogue to Science. Science not only has much in common with philosophy, but has received much of its genesis and encouragement from it. The hypothesis has been a key method of the philosopher as well as of the scientist. Stated hypotheses require objective proofs; then science develops only again to utilize the hypothetical method itself. The objective method reaches its limits and the inquiring mind comes again to the speculative method of seeking truth; philosophy again comes forward for new hypotheses which later may be followed by new science. The physical scientist finds himself restricted in his scope of measurement; he seeks knowledge of human affairs and forthwith comes to philosophical inquiry. When he is not able to find or to state man's place in the universe in terms of law, he must seek it elsewhere. And science, having presented new truths, then paves the way for philosophy based upon the interpretation and relationships involved. There is, therefore, this continuous cycle of science and philosophy, philosophy and science.

Ogburn and Goldenweiser call attention to the fact that in the days of the Greek philosophers, "philosophy still embraced the exact, natural, and social sciences."¹³ *Nicholas T. Spykman* emphasizes the debt of the sciences to philosophy. "Philosophy was the mother of all sciences, and only gradually have they obtained their independence. As the forerunner of science, it takes in a tentative grasp what is as yet unprovable and combines in inclusive concepts what is as yet unobservable as single facts. With these it draws pictures of the world which will be partially confirmed, partially refuted by methodological empiricism, but which are none the less the first approaches to knowledge."¹⁴ But when science does follow and transcend philosophy and when, because philosophy often takes up the quest where science leaves off, its methods are different, the philosophical approach recedes or assumes its tentative rôle again. *Karl Pearson* has stated this sequence well. "It must not be supposed that science for a moment denies the existence of some of the problems which have hitherto been classed as philosophical or metaphysical. On the contrary, it recognizes that a great variety of physical and biological phenomena lead directly to these problems. But it asserts that the methods hitherto applied to these problems have been futile, because they have been unscientific."¹⁵

¹³ *The Social Sciences and Their Interrelations*, p. 2.

¹⁴ *The Social Theory of Georg Simmel*, pp. 14-16.

¹⁵ *The Grammar of Science*, p. 19.

Philosophy and Social Theory. If philosophy has been the forerunner of much that has come from the physical sciences, it has made especially large contributions to the earlier theories in all the social sciences. In political science, for instance, speculation and political philosophy in the seventeenth and eighteenth centuries, and well into the nineteenth, held the center of the stage. Indeed political philosophy has often been listed as a chief mode of philosophy. Here was the age-long interfunctioning of the individual and the group being reasoned out again. Fundamental issues centered around the divine right of kings, liberty and equality, natural and divine law, and the social contract. In economics no less a classicist than Adam Smith worked out his theories of wealth and welfare on the basis of his moral philosophy. Most of the utopias, ranging between political and economic theory, lie in the realm of the philosophy of values and sentiments. In modern philosophy and especially in ethics, the economic situation is considered a major problem. Likewise, much that history has presented has been based upon subjective interpretation and the several theories of history, whether economic, cultural, biographical, or the great man theory, are full of "the philosophy of history." In sociology the philosophical approach constituted for a long time practically the whole substance and method of social study. Even Spencer who was supposed to have released sociology from its metaphysical bondage abounds in organismic analogy and synthetic philosophy. The further illustration of the philosophical approach in the several social sciences will be abundant in the later chapters on the analogical method and on the several disciplinary approaches, while it must be clear also that a great deal of our present discussion of the "scientific method" of the social sciences is still cast in the mode of philosophy.

Floyd N. House recognizes certain relationships between social philosophy and theoretical aspects of social science in his discussion of the range of social theory. "To define the field of social theory it is necessary not only to establish a clear distinction between social science, on the one hand, and, on the other hand, the maxims and aims of social policy and the working rules of social service, but it is also desirable to have in mind at least a rough distinction between social science and social philosophy. This is a question which has been dealt with in greater detail elsewhere in the following pages. For present

purposes we may remark simply that social philosophy differs from social science in somewhat the same way that social science differs from the formulated procedure of the social worker. The term 'social philosophy' is one that has been used in a variety of meanings; the meaning which is perhaps central and most authoritative, however, is that which makes social philosophy the form of reflective thought which seeks to criticize and refine the concepts of social science, as well as to define values for social ethics, with reference to the accepted generalizations, and abstractions of other phases of contemporary reflective thought, and in particular the broadest and most fundamental generalizations by which the thought of our times is guided. The lines between social science and social philosophy are extremely hazy; there is no rule by which one may determine in which classification to place a volume or an article which deals with very fundamental questions of social theory, however definitely it is claimed to apply to the interpretation of concrete cases.¹⁶ Roscoe Pound points out the origin of the science of law alongside the other sciences, in Greek philosophy.¹⁷ George H. Sabine calls attention to the political philosophers as showing "the prevailing rationalism which has tended, until recently at least, to characterize all modern philosophy."¹⁸ W. P. Montague emphasizes the institution of property as one of supreme importance in modern philosophy, holding that its analysis along with that of other institutions "with the comparative evaluations of the variations of which each is susceptible makes up a large part of social philosophy and social science."¹⁹

Social Philosophy. There is, however, according to many students of social science, a wide gulf between the social scientist and the social philosopher. "That," says the critic, "is not social science, it is merely social philosophy." "This is merely subjective reflection, not objective discovery." That is, he is estimating all "theorizing" and reflective thinking which deal with social problems and everyday relationships as social philosophy, while he considers that which deals with mind, the intellectual process, religion, or other aspects of the "spiritual" experience as "pure philosophy." These things, the scientist often maintains, are not being accurately measured at all and therefore are not scientifically

¹⁶ *The Range of Social Theory*, pp. 8-9.

¹⁷ H. E. Barnes, *The History and Prospects of the Social Sciences*, ch. ix.

¹⁸ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, ch. xxi.

¹⁹ *Ibid.*, ch. xxxiv.

dealt with. To which the philosopher may reply, "what the scientist may need is not a new eye, but a new mind. That's what Newton brought—and Darwin—and Einstein."²⁰ The philosopher may also ask the troublesome question as to what *is* measured accurately anywhere. Furthermore, he may insist that philosophy must see life in all its phases. It must see social phenomena, but the sort of *seeing* which will be done will depend upon what sort of mind there is. "Hence, the philosophy which both life and science need, to-day, will probably be wrought out by those who come at the problems of living from more inclusive angles than those usually envisaged by the average scientist . . . the scientist is finding out, these days, that he is a human being, that his methods are subordinate to life and experience . . . that 'scientific method' is a tool of experience, and that 'scientific results' are interpretations of experience, not units of 'ultimate reality.'"²¹ The differences of opinion here seem more to be about, not which is social science and which is social philosophy so much as what their interrelationships and meanings are. And this is a most important aspect of the whole approach to the study of society, bringing into its reach problems of religion, morality, and values, which in turn may be viewed primarily from the objective viewpoint of the scientist or from the reflective viewpoint of the philosopher. The scientist will maintain that it is not enough to be a lover of wisdom, or truth, or knowledge, it is more important to be a discoverer and interpreter of them. We must not, therefore, while esteeming highly the whole work of social philosophy, confuse it with social science.

Nevertheless it is still difficult to separate the two. While the old philosophical discussions of the divine right of kings and of individual and social morality may have become less and less important, there are many other phases of the modern society which bring increasing problems for reflective thinking and intellectual aspects of modern culture other than the purely scientific. John S. McKenzie thinks that there are perhaps a dozen conceptions in social philosophy which still retain a certain sort of validity.²² These include the conception of organic unity, the group mind, the general will, the common good, coöperative purpose, creation, leadership, the place

²⁰ Joseph K. Hart, *Inside Experience*, ch. i.

²¹ *Ibid.*

²² "The Present Outlook in Social Philosophy," *Journal of Philosophical Studies*, I, 55-68.

of imitation, the three-fold commonwealth, the problem of sovereignty, the problem of the family, and the problem of international unity. It is apparent that these problems and conceptions are well distributed among the political scientists, the sociologists, the economists, the educators, the philosophers. Within this range will fall easily the long story of utopias and even the positive philosophy and social religion of *Auguste Comte*, and scores of contemporary efforts like those of *L. T. Hobhouse*, *Mary Follett*, *R. M. McIver*, and others.

Scientific Philosophy. It is not surprising, therefore, that so important in the general public opinion has this philosophical interpretation become that the terms "scientific philosophy," "scientific humanism," "scientific religion" increasingly pass as valid coinage. This constant reiteration of terminology does not make any of them any more or less scientific, but it does indicate something of the still surviving place of philosophy in the humanistic and social sciences. Thus one may have philosophy, religion, ethics essentially different from science and yet utilize the data and methods of science in their application to human society and its problems. Such a philosophy may even be needed to guide the application of the products of the physical sciences to the arts of living, lest their application become not only unscientific but dehumanizing. It may be necessary to set the limits of science, in which case it is "scientific" philosophy only in that it examines critically the "facts" and claims of science. John Dewey distinguishes between the scientific element in philosophy and philosophy as science. "In the historic rôle of philosophy the scientific factor, the element of correctness, of verifiable applicability, has a place, but it is a negative one. . . Scientific facts. . . serve as tests. This fact confers upon scientific fact an incalculably important office in philosophy."²³ Bertrand Russell thinks that the "uses of science, even at the best, are on a lower plane. A philosophy which values them more than science itself is gross and cannot in the long run be otherwise than destructive of science."²⁴ At the same time philosophy which still draws heavily upon analogy for fact and identity and which blandly predicts the future upon present data is "unscientific" philosophy. That is scarcely a "scientific philosopher" who, "seeing man and his world in their

²³ Joseph Ratner, *The Philosophy of John Dewey*, ch. xvii.

²⁴ *Selected Papers*, p. 294.

true proposition, approaches man's problems in a penetrating but genial and humorous manner. Politics and government, love and marriage, modern science, philosophy, Eastern and Western civilizations, are among the subjects wherein he disentangles truth from falsehood. His career as a mathematician, scientist, and philosopher, as an educator and humanitarian, renders Mr. Russell particularly fit for discussing these subjects."²⁵

Philosophy and Present-day Social Science. It must still be recognized that much that goes as social science is still in the philosophical stage, even the form and methodology of setting forth the scientific validity of the several social sciences. The philosophical approach, therefore, must still hold an important place in the total perspective of the human search after knowledge and adjustment. Upon such a basis and the underlying backgrounds of science John Dewey is developing his important work on *The Philosophical Foundations of Social Science*.²⁶

Paul T. Homan states frankly the dilemma of the economists so well that it might apply in general to other social sciences. "One is forced to the opinion that the unsettled state in which economic theory finds itself arises, not merely out of the complexity of the facts with which it deals—though this no doubt adds to the confusion—but more particularly out of the confused currents of thought which prevail in the modern world at large. There is no mere family quarrel in economics—one sees there an illustration of the intellectual world at odds with itself. Economic theory was developed with its roots driven into Utilitarian philosophy. It developed as the mechanics of self-interest in a competitively organized world. It has gradually changed its form by concessive adjustments to other ideas than those that furnished its early sustenance. It has largely cast off the agency, if not the guiding principle, of Utilitarian ethics. Allowance has had to be made for abeyances in the competitive process, and recognition given to the complex of forms which are in their totality called the competitive system. The hedonistic view of human nature has given way to varying modifications or complete denial. Darwinian ideas of perpetual change have shrunk universal laws to mere principles applicable to a given time and place. Concepts applicable to a relatively simple economic organization have had to be revised to fit a situation of infinite complexity. Such adjustments as these

²⁵ *The Notebook* of W. W. Norton Company.

²⁶ To be published shortly.

many economists have found it possible to make while remaining true to the central problem, the value problem, the central method, the method of logical deduction, and the central scientific preconception, the mechanical analogy, of the science. It is this loyalty that permits them to be grouped as 'orthodox.' It is their varying manner of making the adjustments that accounts for the diversity of their systematic doctrine."²⁷

Philosophy, Logic, and Scientific Method. If, as Dean Pound reminds us, all sciences find their genesis in Greek Philosophy it is not surprising to find the origins of methodology in Aristotle's logic, sometimes credited as being the beginning of the modern scientific method. And if deductive logic be founded upon Aristotle, one philosopher—beginner of science—then inductive logic may be said to have its basis in Bacon, another philosopher—beginning scientist—who initiated us into the inductive method in the more modern sense. And if we think of science again in terms of intellectual processes, or orientation, or as right thinking, it becomes clear at once that philosophy again has contributed heavily through the realm of logic.

Will Durant interprets logic as "the study of ideal method in thought and research, observation and introspection, deduction and induction, hypothesis and experiment analysis and synthesis. Such are the forms of human activity which logic tries to understand and guide; it is a dull study for most of us, and yet the great events in the history of thought are the improvements men have made in their methods of thinking and research."²⁸ Thus *Aristotle's* logic was simply the art and "method of correct thinking," the method of every science. *Francis Bacon's* logic was built upon the new needs for new methods of study, for the advancement of knowledge and for the making fertile of philosophy and science. "If we would rate things according to their real worth, the rational sciences are the keys to all the rest," which is not unlike the Hegelian dictum that the laws of nature and the laws of logic are one.²⁹ As a matter of fact the natural sciences have developed certain methodology which assumes the proportion of logic so that the "scientific method" becomes analogous perhaps to Mill's canons of logic. Yet much of the logic of the physical sciences is not applicable to the social studies; it "is left to each of the social

²⁷ *Contemporary Economic Thought*, p. 456.

²⁸ *The Story of Philosophy*, Introduction and ch. ii.

²⁹ *Ibid.*, chs. iii and iv.

sciences to take over, translate and adapt,"³⁰ in order that the influence of logic may not be detrimental. Even *Aristotle* recognized this principle. "We must not accept a general principle from logic only, but must prove its application to each fact; for it is in facts that we must seek general principles, and these must always accord with facts from which induction is the pathway to general laws."³¹ According to *Frederick Teggart*, "the modern philosopher occupies himself with criticism rather than with construction, and that he regards as his special activity the criticism of the methods as well as the analysis of the fundamental concepts and assumptions of the sciences. . . . Philosophy follows science; and it is of the utmost importance to observe, in the present connection, that while it investigates methodology, philosophy does not devise methods for men of science to follow. As the sciences progress in actual insight, they must complete, improve, refine, and extend their methods; the logician simply analyzes the methods employed by the sciences at a given time. . . . Logic does not justify, it describes method; it accepts the actual procedure of the sciences."³² *Floyd N. House's* statement of the purpose of logic in relation to scientific method is comprehensive. "The term 'methodology' seems to have been devised by nineteenth-century writers on logic to meet the need for a category under which they might discuss the general procedure by means of which new scientific truth is discovered. In other words, for the newer philosophy which has evolved by grappling with the problems created by the development of natural science, logic is an instrumental science—instrumental, that is, not in the defense of cherished beliefs, but in the systematization of knowledge derived from experience and subject to verification by observation and experiment."³³

Social Ethics and Social Research. The philosophical approach to the study of social conduct has shifted from idealism as the "almost undisputed master of the philosophical realm in the western world during the latter half of the nineteenth century" to a newer ethics "glorifying progress and freedom" through the objectivity of ideals reflecting the needs of men.³⁴ This new search after values, through the scientific appraisal of facts consti-

³⁰ G. M. Graham, "The Logics and the Social Sciences," *Social Forces*, VII, 24-32.

³¹ L. L. Woodruff, *Development of the Sciences*, p. 217.

³² *Theory of History*, pp. 50-51.

³³ *General Methodology*, Publications of the American Sociological Society, XXI, 165-173.

³⁴ T. V. Smith, "Philosophical Ethics and the Social Sciences," *Social Forces*, VII, 17-24.

tutes an important approach to the modern study of the great society. Thus the search after values, instead of mere philosophical idealism comes to grips with the actual determination and measurement of values in objective terms, wrought out in conjunction with psychology, biology, economics, and some of the other social sciences. Indeed the very question of values is a corollary and a challenge to the whole of scientific progress.

C. Judson Herrick, seeking to find effective bases for new values says, "Progress in the elaboration of the physical equipment for more diversified and comfortable living has indeed gone on so rapidly of late as to be a real danger unless progress in our spiritual ideals keeps pace with it. A man of primitive or barbarous impulses and ideals, if supplied with all of the apparatus at present available in industry, science and war, is merely a more efficient barbarian and he becomes a very dangerous member of society. We must find some means of ensuring progress in peoples' personal and social ideals—what they want to do, to acquire and to become—or civilization perishes." And again, "The pessimism now so wide-spread in thoughtful circles seems to be based on the traditional conception that our spiritual values inhere in some mystical entity of ghostly realm whose acts are capricious, lawless, and remote from the material world where human conduct finds its expression. Naturally we can hope to influence such a mystical agent only by equally unsubstantial means. Thousands of years of metaphysical dialectic and moral precept, supported by all the weight of entrenched religious authority have signally failed to reform the common human nature of large numbers of our most 'advanced' communities."³⁵ This interrelation of individual and group, of philosophy and science in the determination of values is emphasized by *John Dewey* in his discussion of philosophy and civilization. "Admitting," he says, "that the practical problem of modern life is the maintenance of the moral values of civilization through the medium of the insight and decision of the individual, the problem is foredoomed to futile failure save as the individual in performing his task can work with a definite and controllable tool. This tool is science. But this very fact, constituting the dignity of science and measuring the importance of the philosophic theory of knowledge, conferring upon them the religious value once attaching to dogma and the disciplinary significance once belonging to political rules, also sets their limit. The servant is not above his master."³⁶

³⁵ "Behavior and Mechanism," *Social Forces*, VII, 1-11.

³⁶ Joseph Ratner, *The Philosophy of John Dewey*, ch. xviii.

The “Philosophical” Approach to the Study of the Future.

In earlier chapters we have referred to the critics of science and their tendency to interpret its meaning and reach from the viewpoint of the educator, the publicist and the philosopher. The considerable list of references showed a tendency to make such criticisms an important part of present-day intellectual life. We also referred to pseudo-science and called attention to much that is unscientific but which goes as science. In this field we may classify a great deal of current-day discussions of science, of society, of theories and hypotheses which attempt to prophesy the future of mankind. The future of science, what will it be? The future of human society, what will science make it? These are interesting questions and constitute a type of approach which will stimulate thought and research, but their exposition lies for the most in the field of speculation rather than science. Three illustrations will suffice: the one, a list of books tabulated to show the extent and methods of this sort of speculative induction; another, a glance at current periodical treatment of these subjects, as already discussed in Chapter I; and a third, the story of utopias as indicated in the next chapter. The partial list of the Today and Tomorrow Series of little volumes will illustrate the first point in question as exemplified in what we may term “speculative induction.” The point of illustration is the general methodology and theme, not the contents of the volumes, many of which are purely speculative and sometimes fantastic.

Author	Title	General Subject
Gloag	<i>Artifax</i>	The Future of Craftsmanship
Harmon	<i>Balbus</i>	The Future of Architecture
Haldane	<i>Callinicus</i>	A Defense of Chemical Warfare
Schiller	<i>Cassandra</i>	The Future of the British Empire
Haldane	<i>Dædalus</i>	Science and the Future
McColvin	<i>Euterpe</i>	The Future of Art
D’Albe	<i>Hephaestus</i>	The Soul of the Machine
Thom	<i>Hygeia</i>	Disease and Evolution
Russell	<i>Hypatia</i>	Woman and Knowledge
Russell	<i>Icarus</i>	The Future of Science
Haynes	<i>Lycurgus</i>	The Future of Law
Ludovici	<i>Lysistrata</i>	Woman’s Future and Future Woman
Bretherton	<i>Midas</i>	The Future of the United States
Heard	<i>Narcissus</i>	An Anatomy of Clothes
Russell	<i>Nuntius</i>	The Future of Advertising
Turner	<i>Orpheus</i>	The Future of Music

<i>Author</i>	<i>Title</i>	<i>General Subject</i>
Garrett	<i>Ouroboros</i>	The Mechanical Extension of Mankind
Hart	<i>Paris</i>	The Future of War
Fuller	<i>Pegasus</i>	Problems of Transport
Stokes	<i>Perseus</i>	Of Dragons
Pink	<i>Procrustes</i>	The Future of English Education
Jennings	<i>Prometheus</i>	The Advancement of Man
Lee	<i>Proteus</i>	The Future of Intelligence
Wilson	<i>Pygmalion</i>	The Doctor of the Future
Mace	<i>Sybilla</i>	The Revival of Prophecy
Schiller	<i>Tantalus</i>	The Future of Man
Dent	<i>Terpander</i>	Music and the Future
Trevelyn	<i>Thamyris</i>	Is there a Future for Poetry?
Joad	<i>Thrasymachus</i>	The Future of Morals
Dobree	<i>Timotheus</i>	The Future of the Theatre
Stewart	<i>Aeolus</i>	The Future of the Flying Machine
A Quarterly Reviewer	<i>Apella</i>	The Future of the Jews
Bennett	<i>Apollonius</i>	The Future of Psychic Research
Pankhurst	<i>Delphos</i>	The Future of International Language
Sullivan	<i>Gallio</i>	The Tyranny of Science
Hartley & Leyel	<i>Lucullus</i>	The Food of the Future
De Selincourt	<i>Pomona</i>	The Future of English
Briggs	<i>Rusticus</i>	The Future of the Countryside
Carllill	<i>Socrates</i>	The Emancipation of Mankind
Ockham	<i>Stentor</i>	The Future of the Press

Philosophy and "Intellectual" Stock-taking. Still another illustration of the place which the philosophical approach holds in current social study and of the marked contrast between some of its methods and those of science, is found in the action of the American Philosophical Society, announced early in 1929, looking toward an "intellectual stock-taking" of the present era. This Society, the oldest of American learned societies, has appointed a committee on development representing many branches of learning in different parts of this country and England. Some of the questions proposed are: "What is the world's intellectual situation today?" "Is there a drifting apart of the purely scientific interests and the humanistic interest?" "Is there a loss of perspective and of grasp of great principles by reason of specialization in education and in thought?" "How can these interests and these branches of individualistic learning be coördinated into one program with one purpose—the promotion of all useful knowledge?" Typical of the Committee's representation is the fact that it aligns closely the physical sciences with the philosophical approach and contains in addition to professors of philosophy,

presidents of colleges and universities, directors of museums and institutes, archæologists, and various professors of physics, physiology, mathematics, engineering, library administration, medicine, jurisprudence, classics, neurology, history, zoölogy, chemistry, geology, statistics. Notable also is the omission of members representing social ethics, social anthropology, social geography, economics, political science, sociology, American history, social work, and religion.

In his statement to members of the Society President Francis X. Dercum quotes the bi-centenary statement of 1927, as representing the point of view of the present study. “‘The intertwining of philosophic and humanistic interests in the philosophic society helps not merely in deepening our perspective in the field of knowledge. It serves also to make more clear the meaning of the development of human interests through time. In a day of natural and proper specialization such an organization serves as a stabilizer and a means for helping to make more clear the relation between man and his environment, and the place of the individual in the scheme of human organization. The two hundred years of history behind us have seemed, perhaps, to make more wide the gaps between our various departments in the scheme of knowledge. Before us lies an opportunity of picturing, through synthesis of these divergent elements, a universe of nature and of all human life more wonderful than that which we have known and destined to give us ever-increasing joy of living.’ With our opportunity thus clearly defined, I have appointed a committee on development of the society’s activities. This committee has as objectives the intellectual stock taking necessary to the projection of a program of continuing and expanding service of the society and the final development of that program.”³⁷

Philosophy and Special Social Problems. Applying the general term of “reasoned science” to philosophy it is easy to note a preference for the philosophical approach to most social problems. This is especially true, perhaps, in the case of those selected for particular illustrative purposes in this volume—population, war, the family, regional problems, and folk-background studies. That is, the greater number of studies and discussions of these problems have been of the philosophical sort while the tendency is still strong to “reason” about them and discuss them rather than to

³⁷ See special letter to members.

study them scientifically. The premise of this volume is, of course, that there is now new opportunity to make actual scientific studies of these problems as never before because of the advance in research methods and resources and because of the prevailing tendency to utilize all the social sciences in a common attack upon social problems everywhere. Very little of the literature on birth control, for instance, as an aspect of the population situation, is of a scientific nature, although there are many scientific studies being made at the present time. Much of the "talk" on the dangers of race degeneration because of relatively different birth and death rates of different classes is speculative and almost entirely without scientific validity; no experimentation has been attempted on a scale worth while. The same is true of many of the studies and much of the propaganda about the family, such as, for instance, the companionate marriage and various other aspects, about war and its prevention, about races and nations and regions and cosmic relationships between peoples. These have been especially fruitful in philosophical approaches.

This is not to say that the literature on these problems has not been valuable and has not had scientific validity as measured by the philosophical approach. Nor is it to assume that much of the present-day efforts are not being worked out in a scientific way. Combining scientific data with synthetic approach are such volumes as *East's Heredity and Human Affairs* and *Mankind at the Crossroads*, *Pearl's Population Problems*, *Ross's Standing Room Only* in the field of population; books by *Groves*, *Goodsell*, *Popenoe*, *Ogburn*, *Hamilton*, and many others on the family show a marked advance in the scientific method.³⁸ Similar volumes on war and international relations include *Morrison's Outlawry of War*, *H. E. Barnes's The Genesis of the World War*, *J. Bakeless's The Economic Causes of Modern War and Origins of the Next War*, *Walter Lippmann's The Stakes of Diplomacy*, *Thorstein Veblen's An Inquiry into the Nature of Peace and the Terms of Its Perpetuation*, *Will Irvin's The Next War*. In the study of regional problems *E. A. Ross's Roads to Social Peace*, *R. Mukerjee's Regional Sociology*, *Frederick Turner's "Sections and Nation"* are forerunners, while current research projects include studies of pioneer belts, as described in Chapter XVI, of culture areas such as the California Plan at the University of California, the Northwestern at the University of Minnesota, and the Southern at the University of North Carolina.

³⁸ See also Chapter V for other examples.

CHAPTER VII

TYPES OF APPROACH: THE GENERAL ANALOGICAL

Early Physical Analogies. The general analogical approach has included notable attempts to interpret society and to study social phenomena in the same way in which mathematics, physics, mechanics, chemistry, and biology had been so successful in discovering and interpreting physical phenomena. Analogies have been abundant in both speculative social philosophy and objective theories based upon attempts to face the facts and analyze the data upon which a science of society could be built. The types of analogy have varied widely, from complete analogy between physical phenomena and human relationships to the comparative analogies between man and animals, primitive folk and modern society, and between society as it is and utopian structures of the imagination. Analogies have been applied to the whole of society in the form of general social theory and also to institutional parts, such as government, religion, labor, community, education, race, behavior. The majority of such analogies apply to the general study and explanation of society rather than to modern social research, although within the fields of biology, anthropology, and psychology there are valuable contributions in the comparative method. These will be treated in separate chapters.

Mechanistic Theories. Of the earlier analogies the theories which attempt to interpret social phenomena in terms of mathematics, physics, chemistry, and mechanics are perhaps the most noteworthy. They border on the philosophical approach in that they assume a socio-physical monism, and end in the unprovable. They border upon the modern objective approach in that they attempt to apply the method of the physical sciences to the social sciences.¹

¹ Cf. Chapter III.

L. Winiarsky's mechanistic interpretation posits society as a system of points, individuals in perpetual movement, with attraction as the primary cause of movement.² This attraction is like chemical affinity with mechanical bases but with a psychic force not present in the physical world, which, however, in turn is nothing more than a form of physico-chemical energy which in turn, in the form of life, may be transferred from potential to kinetic energy, and this transformation is primarily through the processes of alimentation and reproduction. Human masses transmute energies of hunger and sex into various social, economic, æsthetic or intellectual forms, the transformation proceeding entirely according to the laws of thermodynamics. Society and human beings will ultimately reach an equilibrium in some such way as the physical world has reached its equilibrium and social science must devise objective units of studying this energetic system of humans in relation to their world. *E. De Roberty* in his energetistic theory considers three fundamental forms of energy as composing the world as we know it,—the physico-chemical or inorganic with the molecule as the unit; the vital or organic whose essence is the cell; and the social or superorganic centered in the brain and nervous system. These merge one into the other in an almost imperceptible way. The superorganic elements constitute the “highest forms of psychical phenomena” with “thought” and “abstract knowledge” as the fundamentals.³ *H. C. Carey*, in his comparison of social processes with physical mechanisms, maintains that the same laws govern in the social and economic world as in the physical.⁴ He regards man as a sort of molecule of society. Thus human molecules gravitate toward one another through association, which generates heat, which produces motion, which in turn constitutes progress. This gravitation is measurable through physical laws of direct ratio to mass and inverse ratio to distance. Forms and process such as centralization and decentralization come about through the operation of centripetal and centrifugal forces with association and progress varying inversely as the differences between units and groups of population. *W. Ostwald's* energetistic theory interprets all social and historical change as a transformation of energy.⁵ Science, which is the most fundamental tool of man for the utilization of energy, is the basis of civilization, for the transformation of crude energy into useful energy by means of adaptation results in language, law, commerce, government, etc.,—in other words, culture. Society is merely an arrangement whereby man trans-

² Pitirim Sorokin, *Contemporary Sociological Theories*, ch. i.

³ *Ibid.*, ch. viii.

⁴ *Ibid.*, ch. i.

⁵ *Ibid.*, ch. i.

forms all other forms of energy through effective organization for the better utilization of crude energy. Therefore, the value and justification of concentrated forms of energy, such as a state or social institution, may be measured by the utilization of this energy for the benefit of all its members.

Biological and Organic Analogies. Perhaps the most varied, interesting, and comprehensive of all the analogical attempts to study society have been the biological and organic theories. In a later chapter the biological approach to the study of society will be analyzed and some of the more classical theories discussed. It is important here, however, to note some of the elementary organic theories alongside the other analogies through which students have tried to find out the ends and aims of society. Is society an entity of its own, living, unified? Is it comparable to the human body and the human mind? To what extent will evolution of life throw light upon the evolution of society? Is society the highest form of organic life? Does it have a brain and a mind? Man has diagnosed the human body, can he so diagnose the human society?

The most notable of the organic theories is that of *Herbert Spencer* who interprets the structure and function of society in terms of quasi-biological organism with the individual as the cell or unit. In his theory of cosmic evolution a development from "an indefinite, incoherent homogeneity to a definite, coherent heterogeneity" with an interdependence of the parts, characterizes the social organization as well as the physical. Through its alimentary system society is sustained; its vascular and circulatory system takes care of the problems of distribution through its "arteries of commerce"; while the neuromotor or nervous system maintains control and regulation through the government and military organization.⁶ In somewhat the same way *Paul von Lilienfeld* makes society analogous to a biological organism, regarding it as the highest form of organic life. As the physical organism is composed of cells controlled by a central nervous system and the whole held together by intercellular substance, so society is made up of individuals governed by basic institutions which coördinate and regulate the function of each individual in his social, economic, and political relationships. Like all organic life, each society passes through a regular cycle of growth and decay in which change and adaptation take place.⁷

⁶ L. M. Bristol, *Social Adaptation*, ch. ii; J. P. Lichtenberger, *Development of Social Theory*, ch. xii; Sorokin, *Contemporary Sociological Theories*, ch. iv.

⁷ Bristol, *Social Adaptation*, ch. iii; Sorokin, *Contemporary Sociological Theories*, ch. iv.

Vacher de Lapouge compares civilization to a biological organism.⁸ The brain of the group is provided by a "superior ethnic element" which may be brought in by conquest, pacific migration, or even internal selection, and which directs and carries along the masses. The increase of these superior elements marks the development of the social organism. The organism arrives at its fullest development and the peak of the civilization is reached simultaneously with the culmination of eugenics. As these directing forces regress, the civilization decays. Even *Gabriel Tarde* bases his psychological interpretation upon the organic analogy. ". . . Organic evolution proceeds by the dual processes of variation and selection. Without variation there would be nothing upon which the selective processes could work. By analogy the social process may similarly be explained. Individual initiative and social assimilation are the corresponding phenomena."⁹ *A. Fouillée* "tried to reconcile the organicism and the contractual theories in the form of an interpretation of a society as a 'contractual organism.'"¹⁰ Many other organic theories have been set forth by *Durkheim, Paschel, Hobbes, Simmel, de Maistre, Burke, Müller, Herder, Lessing, Fichte, Kant, Schelling, Hegel, and others.*¹¹

Contemporary Comparative Approaches. Not all of the analogical approaches have been in the nature of so simple mechanisms and unities as those of the social physicists and organicists. Many have utilized the partial analogy as a comparative approach. Such will be found in much of the anthropological and psychological approaches. Such a concept is implied in recent discussions of "the great society." Such was Quêtelet's the "average man"¹² and Comte's social religion and three stages of social and scientific development.¹³ Such was G. Stanley Hall's recapitulation theory of the race,¹⁴ Karl Groos' play of animals and of man,¹⁵ and much of the medieval political philosophy which attempted to compare nature and God, God and man.¹⁶ From these and many others have come stimulating efforts and next steps toward really scientific inquiry.

⁸ Bristol, *Social Adaptation*, ch. v.

⁹ Lichtenberger, *Development of Social Theory*, pp. 410-411.

¹⁰ Sorokin, *Contemporary Sociological Theories*, p. 201.

¹¹ *Ibid.*, p. 200.

¹² Frank H. Hankins, *Adolphe Quêtelet as Statistician*.

¹³ *Positive Philosophy*.

¹⁴ *Adolescence*.

¹⁵ *The Play of Animals; The Play of Man*.

¹⁶ Cf. W. A. Dunning, *Political Theories*.

In later years social theory has been enriched by notable illustrative analogies. *Franklin H. Giddings'* theory of social equilibration posits the thesis that "all social activities tend to equilibrium, but for an indefinite period it may be a moving equilibrium." Since all energy is physical energy, social energy is transformed physical energy. To secure equilibration there must be a constant redistribution of matter and motion. Either population becomes more dense and more closely integrated or there is more mobility and a tendency toward "social dissolution." These continual adjustments between population and environment to maintain equilibration make a perfect equilibrium in society impossible, and the result is a "moving equilibrium."¹⁷ *Charles H. Cooley* holds that individual facts do not exist in isolation but that there is a social fact to go with every individual one. The primary group—family, play group, neighborhood group—is universal to all types of society and to all stages of development and may be considered the basic form of social organization. The sentiments and impulses which are generally termed human nature are a "comparatively permanent element of society" and as such originate in the primary group. Therefore, human nature is a social trait as well as an individual trait since it does not and cannot exist in the individual apart from the group.¹⁸ *Thomas N. Carver* claims that to "transfer the maximum of solar into human energy" is the function of society. The sun supplies energy; and energy produces life. Life is maintained and sustained through the transfer of "solar energy into vital." Man's energy may be spent in the production of either productive or non-productive energy. An excess of productive energy over non-productive builds up a surplus; and the economic use of the surplus means progress. An equilibrium of energy is brought about when a species is just able to maintain itself, and no matter what the forces or their strength, there is always a tendency in this direction.¹⁹ To *N. L. Sims* society is essentially a physical phenomenon. The people, economic goods, culture and tradition, and social organization are the potential energy of society, while all kinds of activity—work, play, worship, etc.—constitute the kinetic energy; and these two—potential energy and kinetic energy—combine to make up the sum total of social energy, as the two combine in the physical realm.²⁰

Effective Analogies. Other analogies may be seen in the development of the special social sciences. We have already referred to

¹⁷ *Principles of Sociology*, Part I, ch. i; Part IV, ch. i. See also ch. v. of his *Studies in the Theory of Human Society*, for an analogy of history as a "behavioristic equilibration."

¹⁸ *Social Organization*, ch. iii.

¹⁹ *The Economy of Human Energy*, ch. i.

²⁰ *Society and Its Surplus*, ch. i.

the philosophical discussions of the group mind, the general will, the common good, the coöperative purpose, and others: still other examples include the division of labor, the economic organicists and physiocrats; the political philosophers and their organicistic structures and utopias; the sociologists, with their ethnological and anthropological examples and comparisons; the law with its body politic; and the social biologists with their organic monism. And while we have cautioned against ascribing final validity to any pure analogy, it is very important to note that there is something more than mere analogical value in the comparative method and in the fundamental unity of all science.

One of the most effective of analogies is that in which *Frederic Le Play* uses the family as a model of society.²¹ "Its universality, structure and organization, and its function in nurturing and training the young, give the family every essential characteristic of a simple society. So, too, the family budget gives not only a concrete picture of family life, but it also provides a "basis for a quantitative analysis of social facts." This basic social unit, the family, becomes the structure for a synthetic study of society as analyzed in twenty-five divisions of *The Nomenclature*: Place of the family, work or labor of the family, property of the family, movable property, salary and wages, savings, family, standard of living or modes of material existence of family, phases of family existence, le patronage, commerce, intellectual culture, religion, neighborhood, corporations, the parish, unions of the parishes, the city, provincial divisions, the province, the state, the expansion of the society, foreign societies, history of the society, rank of the society. A similar partial analogy is being used effectively by many students of society who make the community a unit of study for all society. The community thus becomes a complex unit capable of throwing light upon all social relationships. *Floyd N. House* states that "It may be assumed that all of the forces and processes found anywhere in human society are represented in some form or other in almost any fair-sized community. Interest has therefore been lent to these studies of communities made by those whose proximate purposes were practical, for the students of human society who have been primarily interested in the development and refinement of a body of scientific and systematic knowledge. It may be plausibly argued that if we knew enough about any great modern city, and had our knowledge organized in a systematic and logical form, with the appropriate abstractions indicated, we should

²¹ Sorokin, *Contemporary Sociological Theories*, ch. ii.

have all the content necessary for a general science of sociology.”²² Jesse F. Steiner’s analysis of community forces is good. He says, “It is a mistake to assume that the community is a simple social unit that lends itself easily to manipulation or even to thorough study. The wide variety of elements and forces that enter into its making furnishes convincing evidence of its many ramifications and diverse interests. To understand its physical structure consideration must be given to such factors as location, topography, economic basis, and means of transportation and communication. Viewed as a social unit, it is made up of individuals, families, informal social groups, organizations, institutions, all interrelated in multitudinous ways. To the student of economics, the community presents itself as a constellation of economic forces intimately bound up with its trade life and industrial development. Those interested in religion find the community a fertile field for the study of religious organizations and institutions and their effectiveness as a means of social control. The community, to the social reformer, becomes a laboratory where various experiments can be carried on in the effort to deal with social problems. The community, moreover, is organized as a political unit with its laws and local government and its machinery of political parties. Educationally, it has its public school system, library, newspaper, and other means of disseminating knowledge. The people themselves, apart from their organized efforts to satisfy their more important wants, may comprise different races and nationalities, vary greatly in their beliefs, attitudes, customs, and traditions, and are widely divergent in their abilities and dominant desires.”²³

Utopias as Wishful Analogies. The need for creative thinking and imagination for the scientist has been urged often. In some aspects of social study the analogy becomes a kind of hypothesis for stimulating study and experimentation. The pure utopia represents a popular analogy in which there is no expectation of experimentation to prove the validity of the hypothesis. The analogy is one of the future in which no controlled experiment of a given time is possible. There are, of course, many plans and experiments constantly being projected which are popularly styled “utopias” because of their idealistic outlooks. Some of these, such as farm colonies, may very well constitute units of social experimentation. However, the literary utopia has had an

²² *The Range of Social Theory*, ch. vii.

²³ *The American Community in Action*, pp. 5-6.

important place in the past consideration of social relationships, as may be seen from a representative score of samplings which illustrate the case.

PLATO's *Republic*—Moral education to secure happiness of the social whole; SIR THOMAS MORE's *Utopia*—Communism with agriculture the basic occupation; FRANCIS BACON's *New Atlantis*—A world of new machines based wholly on a secular science; CAMPANELLA's *The City of the Sun*—Perfect communism with dignity of labor as an ideal; WILLIAM MORRIS' *News from Nowhere*—An utopia from which big cities have disappeared and where the joy of creation is sufficient remuneration for labor; LAURENCE GRONLUND's *The Coöperative Commonwealth*—A coöperative society with instruments of production under collective control, with all citizens as public functionaries, and with labor rewarded according to results; H. G. WELLS' *A Modern Utopia*—A unified world community built upon education and intellectual attainment. ÉTIENNE CABET's *The Voyage to Icaria*—An industrial society organized on a national scale with complete uniformity for all. THEODOR HERTZKA's *Freeland: A Social Anticipation*—A society based on social production in which the product of industry was the sole economic incentive. EDWARD BELLAMY's *Looking Backward*—A communistic industrial society with complete governmental control. ALFRED DENTON CRIDGE's *Utopia: Or the History of an Extinct Planet*—The development of a human society from the most primitive civilization to the highest stage of industrialization, and the violent class struggle attendant upon the final stages until the reform party is successful; HENRY F. ALLEN's *The Key of Industrial Coöperative Government*—A coöperative society marked by nationalization of production and consumption with compulsory labor; IGNATIUS DONNELLY's *Cæsar's Column*—An extension of the powers of government suggested as a remedy for class struggle and class hatred; AMOS K. FISKE's *Beyond the Bourne*—The happiness of each individual is dependent upon his seeing that every other person has the same chance. CHAUNCEY THOMAS' *The Crystal Button*—Injustice is eradicated through higher ethical standards and an informed public opinion. HENRY OLERICH's *A Cityless and Countryless World*—Coöperative ownership of lands and means of production with each individual receiving the product of his labor formed the basis for this cityless utopia. WILLIAM DEAN HOWELLS' *A Traveller from Altruria*—Peaceful transition from a capitalist régime to complete nationalization of all forms of business by means of political action. ALBERT A. MERRILL's *The Great Awakening*—The basis of this republic was a change in the monetary system, currency being

based upon the total amount of wealth in existence. W. H. HUDSON's *A Crystal Age*—The farmstead and the family is the ultimate unit of social life. Certain elements in human nature are selected and developed while others are submerged.²⁴

Appraisals of the Analogical Approach. While the use of the analogical method has been preëminently a part of the philosophical approach and utilized in lieu of the scientific objective method, it still persists to considerable degree and may still have its important place in the total scheme of social study. L. L. Bernard thinks that the "analogical method of interpretation and generalization of sociological conclusions, although deductive rather than inductive, has persisted in our time in default of a completer development of the statistical method. In fact, the initial statistical process of choosing the sample perhaps inevitably involves some analogical elements, although these may be removed by a fuller development of case analyses and of numerical definition of items to be generalized."²⁵

W. G. Sumner and A. G. Keller have severe criticisms of the analogical method. According to them "reasoning from analogy" is very dangerous and has numerous pitfalls. It is a form of reasoning adapted to the immature mind but deserves little consideration from the more mature individual. "'They [analogies] will always remain indispensable instrumentalities in exposition; in fact, that is their characteristic function; they are an expedient for transmission of truth and have nothing directly to do with its discovery.' An analogy can never be more than an illustration for no two things are ever exactly alike. Therefore, in strictly scientific procedure there is no place for analogy, for it can never apply to more than one phase or relation. 'There can be no real reasoning from analogy; it is a misnomer.' The upshot of these reflections on analogy is, then, that there can be no direct scientific utility in it; that it is a device for exposition of positions taken, not for the discovery of new truth; that it is useful for offering suggestion from one range to another; but that it must always be employed with critical circumspection."²⁶ On the other hand E. C. Lindeman holds that "analogy as method is more than example. The interpretations of an-

²⁴ A. B. Forbes, "The Literary Quest for Utopia," *Social Forces*, VI, 179-189; Lewis Mumford, *The Story of Utopias*; H. W. Laidler, *A History of Socialist Thought*, chs. viii, xii; Howard W. Odum, *Man's Quest for Social Guidance*, ch. iv; T. N. Carver, *Principles of National Economy*, ch. iii.

²⁵ "The Development of Methods in Sociology," *The Monist*, XXXVIII, 320.

²⁶ *The Science of Society*, III, 2179-2183.

alogy provided by Kant, Sir William Hamilton, and John Stuart Mill, justify the treatment of analogy as a distinct method, differentiated from formal logic although not entirely independent of it. Analogy as method has come to mean the discovery of resemblances in particulars. The inductions of logic proceed by discovering the resemblances in the many which lead to the conclusion of resemblances in particulars which lead to the conclusion of resemblances in wholes. In both cases the process is from known to unknown points of agreement."²⁷ And Julian S. Huxley, although criticizing the earlier claims, concludes that "there is, therefore, reason to suppose that the processes of evolution in man and man's societies on the one hand, and in lower organisms on the other, must have something important which if we could but unravel would help us in the study of both."²⁸

Analogy Versus Identity. The validity of the analogical method, of course, as is often the case in methodology, must depend upon the claims made for it. Wherever analogy is confused with complete identity, the analogical approach will prove most unscientific. The study of "social heredity" or "social prepotency," for instance, may lead to scientific inquiries of great value to education and to social development, but to insist on literalness in the figures of socially inherited characters is as inexcusable as the identities of the biological organicists. Nevertheless, an analogical hypothesis concerning social prepotency based upon scientific studies of animal breeding might pave the way for important social discovery. Paul Carus goes a little further in his estimates of the analogical approach when he cautions us that "The method of using analogies is of great service in scientific investigations, but it must not be taken as real science; it is the mythology of science . . . the ideal of scientific inquiry is a simple statement of facts."²⁹

One of the most notable of all analogies which has often confused figure with identity is the theory of evolution itself. Animal life has evolved through such and such ways and has reached certain stages. Human life must therefore be and is of the same sort because it follows fundamental laws of evolution. Julian S. Huxley points out something of the fallacy of this approach. He says, ". . . the crude application to human affairs of the doctrine of the struggle for existence, torn from its biological

²⁷ *Social Discovery*, pp. 53-54.

²⁸ "Biology and Sociology," *Monist*, XXXIII, 389.

²⁹ *The Point of View*, p. 126.

context, isolated and over-emphasized, is wholly unwarranted. On the other hand, a struggle does continue, both of the direct and indirect type defined by Darwin; and there is no prospect of it ceasing to play an important part in human biology. Coöperation is not, any more than competition, to be taken as the sole desirable principle. . . . But, as everywhere else in human conduct, after the broad principles have been grasped, success lies always in a delicate, continuous adjustment of conflicting claims, in what one may call a personal conscious effort. Struggle is universal: but alone it can only lead to a certain stage of evolutionary progress.”³⁰ Another type of criticism of the complete analogy between human and animal society is found in such classical theories as Fiske’s prolongation of infancy and Kidd’s emphasis upon religion in survival.³¹

Popular False Analogies. Falling under the general classification of false identity have been many of the common and popular analogies utilized in the study of social conditions and in predictions for the future. “History repeats itself” or “History never repeats itself,” or varying applications of the cycle theory of culture or economic phenomena are illustrations. Greece and Rome fell; some of their social conditions are similar to modern social conditions and therefore, for this reason, the way of the modern nation must be the way of the ancients. History and prophecy in the scriptures are “thus and so,” therefore they must be the same in this modern era. In rural days America had certain conditions in school, religion, and industry and they developed the nation; in order to continue to develop, the nation must follow those same policies. Great men in the early pioneer days of America (when all America was rural) came from the country districts, therefore they must always come from the rural civilization and the modern city cannot produce leaders. In other words, the analogy wrongly used, in addition to confusing identity and problems of time, space, and general relationships, excels in confusing cause and effect.³²

Turning to the special social problems used in this volume as type problems to illustrate the range and correlation of social

³⁰ “Biology and Sociology,” *Monist*, XXXIII, 364-389.

³¹ Sorokin, *Contemporary Sociological Theories*, ch. xii; Lichtenberger, *Development of Social Theory*, ch. xi; Bristol, *Social Adaptation*, ch. v.

³² Other appraisals of analogical study are presented in the following chapter on “The Biological Approach.”

research—war, population, the family, regional problems—we may find analogies typical of both the strong points and the defects. With reference to population, for instance, the original Malthusian doctrine neglected important elements of time, space, science and technology; and yet the revival of interest in the problem of limitation of population is an example of the suggestive value of such an analogy as may be drawn between animal and human multiplication. The study of the family, of marriage and divorce, of work of women and of standards of living and of birth control has brought forth many false analogies. The analogy between duelling and its elimination and war has both the value of showing how the "impossible" has been done and of confusing individual combat with group conflict. International relations challenge the analogy of the world state. And finally the whole program of regional research is an analogy which assumes that the adequate analysis of a region or section of America, for instance, will constitute a fair analysis of the whole of an American Society. Manifestly the value of the regional contributions will depend upon the scientific evaluation and utilization of results obtained, and upon the successful reduction of all data to a *social denominator*, and in this task another general analogy, that of the methodology of the physical and social sciences, involved often in the book will also be tested.

CHAPTER VIII

TYPES OF APPROACH: THE BIOLOGICAL

The biological approach to the study of human society finds its genesis and objectives in the task of working out the relations between human beings and other living bodies on the one hand, and between living bodies and their vital backgrounds in inorganic nature on the other. The earlier attempts to understand society in terms of organismic analogies were forerunners of later scientific contributions and of the present biological approach. Darwin and the whole evolutionary movement gave considerable momentum to the biological approach in the nineteenth century and after, while the current emphasis upon behavior mechanisms and upon eugenic control and revision of codes of sexual behavior have greatly accelerated the biological emphasis in the social sciences of today until many present-day social theorists, consciously and unconsciously, may be said to belong to the biological school. The biological approach may be viewed from three general viewpoints. One is the interpretation of social phenomena and social behavior in which social organisms are considered analogous in origin, structure, and function to living organisms or to plant and animal societies. This is, of course, one of the important methods of analogy, the most classical example being that of Spencer already cited along with a few others. A second phase involves the comparative study of plant and animal life with cumulative scientific researches in the field of genetics and eugenics. A third includes that large body of other factual contributions of biology to social study, worked out through the scientific study of life processes and behavior mechanisms and patterns.

Human Biology. So important has the biological approach become that Raymond Pearl believes that human biology "is rapidly developing as a distinct branch of biological science." In the announcement of his journal of *Human Biology: A Record of Research* he designates several phases of the field of human biology, including physical and general anthropology, anthropometry,

vital statistics, human heredity and eugenics, pre-history, human anatomy, constitutional pathology, psycho-biology, and special aspects of sociology. Here are included biological contributions which have worked out through the scientific study of life processes and behavior, mechanisms, and patterns, having important bearing upon the whole phenomena of human society. Man acts as a living being and his recorded history is due in some measure to this biological nature. Thus are involved racial life and adjustment, human and social values as influenced by biological impulsion, the whole process of evolution, with such contributions as those of Lamarck and Weismann, the general adaptation of organisms to environment with the application to social survival. Here are the related problems of birth supply and birth control, the problems of social inheritance, the wide field of genetics and theories and experimentation in eugenics all of which constitute valuable approaches to social study and research. So, too, medicine, public health, food supply, man's control of physical environment, hypotheses of population curves, and various social phenomena as involved in infancy, courtship, maternity, sex behavior, and other social phenomena.

Organic Analogies. In a previous chapter we have already called attention to types of biological analogies presented by Spencer, Lilienfeld, and others. These were representative of the pure analogy, the organismic theories, and to some extent the mechanism of nature. It is important to study more of these organic approaches, both for their own representative value and for the contrast to present-day over-simplified mechanistic approaches. Scholars like Professor C. Judson Herrick express the belief that "the living mechanism when viewed in its entirety is big enough and good enough to embrace the whole of human life, all of our behavior, all of our subjective experience, and our most refined spiritual values. These values are in no way degraded or impaired by the recognition that they inhere in our natural bodies."¹ Accordingly in the review of the mechanistic analogies listed in this and the previous chapter, it is important to note the current revision of the classical idea of mechanism into something much more genetic and inclusive.

¹ "Behavior and Mechanism," *Social Forces*, VII, 1-11. Further exposition of this method of approach will follow.

According to *Otto Ammon*, since man is a biological organism and since society is therefore essentially a biological phenomenon, the study of human society should be based on biology.² The biological inequality of human beings necessitates and justifies social inequality. This social stratification fosters genius and leadership which is vital to the life of any society. Instruments of social selection such as schools, courts of justice, etc., weed out the mentally and morally unfit. *Albert Schaffle* also holds that the social organization is homologous to a biological organism. All social devices for safety,—the army, police, clothing, roofs, etc.—are “protective social tissue,” while “technical and practical social arrangements” supply the muscular tissue; and education is the directing power or nervous system. The group, rather than the individual, is the basic unit in social evolution. As development proceeds the social units become larger, more complex, more specifically differentiated, and yet more closely interrelated; and the struggle for existence becomes one of kind and of interests rather than of survival or extinction. *Jacques Novicow's* bio-organismic theory is based on adaptation through conflict and alliance.³ As in society, struggle is constantly taking place, not only between heterogeneous groups, but also within the groups themselves, so in any organism there is constant struggle among the various parts. In this conflict some parts are absorbed (assimilated) while others are eliminated. There is thus brought about a “functional interaction and interdependence” of the many and varied parts of the social organism. Later *Rene Worms* developed the theory that in “origin, structure, and function, society is analogous to organism.”⁴ The differences which exist between society and an organism, although unquestionable, are not sufficiently important to invalidate the analogy.

A Critical View. The biological analogies constituted for a while an important part of social theory, were influential in directing many students to inquire into biological principles which might explain human behavior, and were followed by the social Darwinians. Manifestly, however, the limitations of this sort of analogy are similar to those of the mechanistic school of social theorists. The chief difficulty lay in the confusion of analogy with identity and in ascribing final values instead of stimulating methodology. It is interesting to note how scholars like Spencer

² Pitirim Sorokin, *Contemporary Sociological Theories*, ch. v.

³ Sorokin, *Contemporary Sociological Theories*, ch. iv; L. M. Bristol, *Social Adaptation*, chs. vii, xiv.

⁴ Sorokin, *Contemporary Sociological Theories*, ch. iv.

and Lilienfeld identified a single organic individual with all parts under one control and organism with the figurative body politic composed of isolated and widely differing units. Nevertheless it is important to note a certain renewal of emphasis upon a real genetic connection between the most elementary biological processes and social organization by such scholars as Herrick and Child.

Ogburn and Goldenweiser have analyzed the earlier contributions. They say that "Biological facts and speculations reached over into the social field through two channels: the analogy between a biological organism and the organism of society, and the extension of evolutionary ideology from the biological to the social sphere. Fortunately for the social sciences, the 'organismic theories' of society and the state were usually so far-fetched as to exert but a passing influence on social thought. The specter of Hobbes' *Leviathan* haunted us but for a moment; Spencer's elaborate 'analogies' were soon discarded as dialectic fireworks, while *Paul von Lilienfeld's* mercilessly pedantic tomes were criticized so little only because they were read even less. The effect of evolutionary biology struck deeper and lasted longer. The somewhat confused notions of development and progress already present in the social sciences now received a fresh impetus. Fired by the glowing panorama of social evolution thrown upon the canvas of culture history by Spencer's none too discriminating brush, aided by the fatal flexibility of the 'comparative method,' social scientists—the 'classical evolutionists'—were filled with an unprecedented enthusiasm for system building. Thus arose the evolutionary religion of a Tylor, Frazer, Jevons; the evolutionary social and political theory of a Morgan, Kowalevski, Muller-Lyer; the evolutionary art—if not esthetics—of a Haddon, Balfour, Hirn; the evolutionary ethics of a Wundt, Sutherland, Westermarck, Hobhouse; the evolutionary economics of a Letourneau, Bücher, Hahn. As all these writers used almost exclusively primitive data, the biological doctrine thus grafted upon social science assumed in this new domain an anthropological guise."⁵ Julian Huxley has given a fair appraisal of this method. "It was speedily seen, however, that such generalizations were so broad and vague as not to be of much service: that the resemblances were in fact often no more than symbolical or metaphorical, instead of being based upon detailed similarity of constitution or of evolutionary development. With this, evolutionary theorizing on sociological matters fell somewhat into disrepute. . . . But the original con-

⁵ *The Social Sciences and Their Interrelations*, pp. 3-4.

tention still remains, and is logically unassailable. Man is an organism descended from the lower organisms; his communities are composed of units bound together for mutual good in a division of labor in the same way as are the cells of a metazoan; he can no more escape the effects of his terrestrial environment than can other organisms.⁶

Social Darwinism. Similar in many respects to the organismic analogists were the social Darwinists whose partial analogies also exerted great influence upon the study of society. According to Floyd N. House, "The earliest and most naïve reaction of sociologists to the Darwinian theory was the development which came to be known as 'social Darwinism,' the elaboration of arguments and data to show that individual differences, race differences, caste differences, and even class differences might be accounted for in terms of natural selection and biological inherited adaptation. The writings of Gumplowicz, Novicow, and Vacher de Lapouge are representative of this tendency, which has been continued, with some modifications by such recent writers as J. W. Gregory, Lothrop Stoddard, Madison Grant, and William McDougall."⁷

Again there are the usual limitations of similarities and identities. So "human beings are born into the world as physical organisms, differing tremendously in degree from other animal organisms, however, as to the plasticity and modifiability of their behavior tendencies. Because of this plasticity, human personality becomes shaped and formed to fit in with the patterns of activity already predominating in the society into which the individual is born. In other words, the individual acquires as his habits, the customs of the groups in which he lives, particularly those in which he spends his earlier years. These customs, which in their totality and interrelatedness we speak of as the *culture* of the group in question, appear to be always more or less imperfect when regarded as the mechanism whereby physical and social means are adapted to human ends; the ends being given, in the last analysis, by the projection as ideas and ideals of those deep-seated cravings which are presumably in some sense functions of the sort of organisms we are."⁸ C. M. Case gives a critical appraisal of certain concepts of biological and social evolution. He says, "We are thus brought to the correct interpretation of the facts of social evolution, for, as we have

⁶ "Biology and Sociology," *Monist*, XXXIII, 364-389.

⁷ Floyd N. House, *The Range of Social Theory*, pp. 98-99.

⁸ *Ibid.*, *passim*.

attempted to suggest, the process known as social evolution is almost solely a matter of the development of culture. This being true, the methods and concepts of *organic* evolution do not directly concern the student of social evolution, simply because they are irrelevant to the phenomena under consideration.⁹

Biology and Social Development. The attempt of this group to state the social problem in terms of biological analogy was at least successful in calling attention to the natural relationships between human beings and their society and organic life in general. Even in their failures to solve the problem they have reiterated again and again the question as to what *is* or what *may be* the points of relationship and how to get at them. Thus they have restated the scientific problem —to find out about the *nature* of society —what it is and how it got that way and how it works. They have attempted to apply the formula of science utilized in natural phenomena to the field of social phenomena and to enlarge its interrelationship. And having raised the scientific question they have naturally sought the services of biology to answer as much as possible. Thus the advance of modern biology both stimulated comparative study and also offered more and more pertinent data for the student of society. Certainly no competent student of society pretends to know his field without understanding something of the fundamentals of heredity, on the one hand, and environmental patterns, on the other, with all of their implications and ramifications, so far as may be ascertainable.

Darwin's evolutionary hypothesis of course considered the importance of both heredity and environment. His principal contributions centered around "natural selection" and "sexual selection." All organic life, if unrestricted, tends to increase at an extravagant rate. But there are certain natural enemies that act as checks, and in the "struggle for existence" with these, the fittest survive. This survival is due to adaptation through variation, and the adaptations useful to the species persist through the "transmission of acquired characters" through inheritance. Secondary sexual differences are brought about by "sexual selection." According to *August Weismann*, the living organism is composed of germ-plasm which gives rise to

⁹ *Outlines of Introductory Sociology*, pp. xxv–xxviii. This viewpoint is, of course, contested by those who hold, as does Professor Herrick, that "we need no appeal to a superorganic, for the organic mechanisms, properly understood, are adequate

new organisms, and soma-plasm from which the rest of the organism develops. As the ovum develops into the organism, the germ-plasm remains unchanged, thus establishing the continuity of the germ-plasm from generation to generation.¹⁰ *Jean Baptiste de Lamarck*, formulated the hypothesis that "all change in the organic as well as in the inorganic world is the result of law." But, unlike organisms having only a nervous system, man, with his brain consciously wills his adaptation and adjustment to environment and such adaptation may be transmitted to the offspring through inheritance. This transmission of acquired characters, in conformity with law, brings about the evolution of higher organisms from lower. *Hugo De Vries* formulated the theory that "novel characters" appear suddenly without any parental linking. Such variations are of two kinds,—inheritable, called mutations, and non-inheritable or fluctuations. Since the fluctuations are due to environment they have little permanent value, for advancement and development of a species are built primarily on pedigree. *Johann Gregor Mendel's* experiments developed three primary laws, one was the law of dominance, a second was the segregation of the chromosomes to the gametes, and the third was the independent assortment and recombination of the chromosomes. Contrasting characters are not equal in inheritance, but one is dominant and the other, recessive. Therefore, when a dominant and a recessive are united, the result is a hybrid displaying the dominant characteristics while the next generation will result in three offsprings with dominant characteristics, two of which are hybrids, and one recessive. This is the Mendelian ratio of inheritance. *Sir Francis Galton's* thesis was that, while "individual differences are due to heredity and environment," it is the former which is the primary factor. Various biometric studies, especially investigations of the sons of men of genius, point to the conclusion that eminent men beget eminent sons to a much greater degree than in generality; that specific ability is inherited; and that environment cannot create ability but can only foster it. The law of Ancestral Inheritance formulates the ratio of the inheritance of both physical and mental characteristics in all individuals: one-half from the parents; one-quarter from the grandparents; one-eighth from the great-grandparents, and so on. *Karl Pearson*, through his biometric studies showed how "man varies" and that "these variations, favorable or unfavorable, are inherited and that they are selected."¹¹

¹⁰ Bristol, *Social Adaptation*, ch. iv. See especially F. H. Hankins, *Introduction to the Study of Society*, pp. 224-225.

¹¹ See for these and other samplings, Pitirim Sorokin, *Contemporary Sociological Theories*, ch. v; F. H. Hankins, *Introduction to the Study of Society*, pp. 228-229; L. M. Bristol, *Social Adaptation*, ch. v; E. G. Conklin, *Heredity and Environment*, ch. ii.

Other Contributions of Biology. Concerning the contributions of biology to the science of society there are many estimates. We have referred to Ogburn and Goldenweiser's general appraisal. They have summarized the contribution of biology by saying that it "has benefited the social sciences by introducing the concept of natural growth and by defining the limits of man's organic traits; but . . . it has also hurt them by flooding the field of social theory with the dogmatic notion of a rigidly ordered development."¹² Julian Huxley in the discussion already referred to considers three contributions which biology makes to sociology. These are, *first*, to the idea of progress, *second*, to the relation of the individual and community, and *third* to the doctrine of the struggle for existence as applied to man. Other contributions will be found in the study of race, of comparative psychology and anthropology, such as will be discussed in the next two chapters. Certainly the controlled experimentation and the limited financial cost of studying animals and their behavior offers an important contribution, while the quantitative and qualitative results of biological contributions to medicine and the longevity of life are of first importance.

Of a different sort are the contributions estimated to be made to the special qualities of human nature. *A. E. Wiggam* estimates the highest message of biology to be "that notwithstanding their terrifying dangers, human sympathy, social tenderness, protection of the weak and meek and lowly, special education for the feeble-minded and uncontrolled, medicine, hygiene and social uplift must not only go on but be multiplied many fold. They are the very evidences of civilization. Man's heart and not his head is the finest product of evolution. But impulsive sympathy must be linked with the higher, deeper, wider, indeed, protoplasmic sympathy of science. Instinct must be subjected to reason or man's heart will burst his head. Social betterment must work with race betterment or both will fall into the ditch. A race that will not respond to hygienics will never respond to eugenics. A race that will not care for the cripple before its eyes will care nothing for the cripple in the unseen future. The inferiors must be saved for everything but reproduction; the superiors must save themselves basically and biologically with this end in view."¹³

¹² *The Social Sciences and Their Interrelations*, p. 7.

¹³ *New Decalogue of Science*, p. 181.

Biology and General Social Problems. From our previous study of the interrelations of the social sciences it was seen that biology was of particular value in coöperation with sociology, psychology, anthropology, economics, and ethics in the joint attack upon certain problems of human behavior. It is important to remind ourselves again that comparative studies in this field, to be of scientific value, must be appraised always in their relation to partial analogy and in proportion as they make an *actual* contribution in methods and background materials. With this limitation in view the biological approach to many social problems will be most important.

Howard Parshley lists seven main groups of social problems which are intimately related to biology—*eugenics, individual differences, population and food supply, public health, racial theories, glands, and morality.*¹⁴ Of eugenics he notes three theses. The first is the importance of inheritance of superior qualities; a second, the importance of the superior folk, increasing their birth-rate; and the third, the importance of elimination of the unfit. He thinks that "Enough has already been accomplished in this direction not only to give promise for the future but also to justify present action. It would seem, therefore, that among the countless schemes for reform born of the restless and dissatisfied strivings of man to better his earthly lot—that eugenics may reasonably be regarded with a more than ordinarily hopeful eye; if, indeed, improvement in the inherent qualities of humanity, as distinguished from mere progress in invention, is at all possible, if it is anything, let us say, beyond a futile and utopian aspiration."¹⁵

Eugenics and Social Research. A concrete exercise in illustration of the eugenics phase of the biological approach may be had by reference to the program of the American Eugenics Society or the literature in review in the English *Eugenics Review*. More than two score agencies in the United States are listed as giving promise of assistance in such a research program. Although advocating a program to include the promotion of eugenic education, conservative eugenic legislation, and eugenic administration, the report of the president stresses most of all the promotion of eugenic research. The list and functions of the several organizations must be appraised, of course, in accordance with their relative

¹⁴ See also his *Science and Good Behavior*, ch. i.

¹⁵ H. E. Barnes, *The History and Prospects of the Social Sciences*, ch. iii.

degrees of propaganda, philosophical approach, or actual scientific contributions. The list of topics suggested follows:

Research in determining the modes in which physical, mental and temperamental traits are inherited; human mutations, especially those of a mental sort; the action of differential selection in marriage, of differential fecundity, differential survival and differential environment—education, occupation, modes of life; the effects of the World War on the race; the effects of immigration with reference to physique and intelligence, and with reference to the eugenics or dysgenics of blending different races; the effects—mental and bodily—of hybridization of different races, distant as well as more nearly related; the effects, actual and possible, of birth control investigated from the standpoint of eugenics, as distinct from that of feminism, humanitarianism, or ethics; urbanization in relation to the study of differential birth rates, and the connection between a high birth rate and social utility; the question whether religion, philanthropy, modern sanitation, and medical progress are really eugenic; biological genealogy. *The Eugenics Review* in a single issue, e. g., July, 1928, reviews four score publications covering almost as wide a range as our previous topics on population.

A Growing Contribution. We conclude that the increasing biological contribution to the scientific study of human society may easily be ranked among the foremost of the present hopeful trends in the social sciences. In its reach it extends from the logical interrelations between the physical sciences and the social sciences through experimentation in the comparative method and in eugenics to the opening up of "a natural technique for the further control of human conduct, personal development, and social evolution leading to better bodies, better minds, better morals." Its range of details includes the technical study of variation and heredity, of combinations and mutations, of adaptations and the utilization of biological data to discover facts concerning the development and control of bodily structure, physiological function, and mental behavior.¹⁶ It involves the psycho-physical structure of human inheritance upon which habits and conduct are based, and all the backgrounds of the interrelations between inherited factors and environmental patterns. It involves the newer understanding and mastery of biological mechanisms which are less "mechanical" than many of the tests of intel-

¹⁶ See F. H. Hankins, *An Introduction to the Study of Society*, p. 223.

ligence and conduct which have been developed. It challenges science to discover and measure constant factors in social prepotency which will guarantee the continuity of human progress. In fine, in the combination of biological mechanisms and cultural patterns are found much of the genesis and development of social progress which Professor Herrick interprets in terms of the richer life measured by diversity of contact with environment and more efficient use of natural resources for the welfare of the individual and the society to which he belongs.

Thus it is seen that eugenics represents only a relatively small part of the biological approach. Its technique is yet to be perfected so as to permit of real scientific experimentation and control of subjects of experiment and of other subjective and objective factors. *Franz Boas* and many others set a critical limitation upon eugenics on the ground that the perfection of technique to avoid suffering and struggle of the weak will tend to defeat the whole purpose of eugenics; and while he seems to overlook the constantly changing strain upon individuals to survive in new environments, even of ease and luxury, there is substance and point to his complaint. *C. Judson Herrick* thinks that eugenics and heredity, as the chief factors in social-biological problems, are often over-estimated as the typical biological background of sociology. They are there, of course, he agrees, "but social heredity and the whole machinery of human society are as natural and as biological as germinal heredity. We need only to direct our attention to their mechanisms to get them under control. This is a biological problem as truly as a sociological—human biology is more than guinea-pig biology. 'Rats are not men.' The same laws run through, however, even laws of survival of the fittest. But the survival is here of a social unit, not the individual. Good social practice has survival value in our societies. The world will combine against bad social practice, or even the belief in such practice, as we saw when the nations combined against Imperial Germany ten years ago."¹⁷

Special Selected Problems. To the study of the special composite problems cited for general reference in this volume the biological approach will often prove effective. In the regional list are important problems of race and stocks, of family and population, of special environment and heredity, and of diet, sanitation, health and creative efforts. Studies of the family have just begun

¹⁷ From a letter to the authors.

and many contributions like Popenoe's, Pearl's, and Groves and Ogburn's are examples. Studies of population and of war will require much of the biological approach and scientific contribution. Problems which were originally matters of administration or of morals are clearly seen to be also matters of science and social progress. Such are immigration and international relations in which race, eugenics, and rights are all involved.

Floyd N. House summarizes the conclusions of *Raymond Pearl's* studies of population and calls attention to the newer qualitative studies. "Pearl's conclusions may be stated briefly and in non-mathematical terms as follows: The long-run tendency of any population unit, large or small, may be represented by a curve which, starting from zero or from a previously established stationary level which represents the supporting capacity of the physical environment of that group at the then stage of its culture—productive technique and standard of living,—rises at first slowly, then at an increasing rate, then at a decreasing rate as the curve approaches an upper asymptote which represents the total supporting capacity of the environment at the present stage of cultural development. . . . Darwin's natural selection hypothesis, which was suggested to him according to his own story from the reading of Malthus' *Essay on Population*, became in turn the starting-point for the formation of a theory which lends support to the idea of qualitative differentiation in a population. Down to date, the principal fruits of this idea have been two: the eugenics movement and the revival of racial consciousness. The eugenics movement has been led by several persons who think of themselves particularly as the successors of Darwin, including Karl Pearson and Major Leonard Darwin. They, like other students of population, have been interested in differential birth and death rates, but since to them the tendency to shrinking numbers in the upper strata of the population is in general a tendency to the replacement of the qualitatively superior elements by inferior ones, they view the process with greater alarm, on the whole, than do those who see in differential growth tendencies of different classes of the population only a tendency for the standard of living to be crowded down, *i. e.*, for classes with superior standards to be progressively replaced by those with lower standards. The eugenicists derive from their doctrines a twofold propaganda; they advocate segregation and sterilization of the obviously unfit elements in a population, and they would like to see ways and means devised to encourage the reproduction of the superior elements in the total population. The outlook of the enthusiasts for race is very

similar to that of the eugenicists.¹⁸ Pitirim Sorokin summarizes much of the sociological contributions of the biological school with reference to war. The study of war and struggle has brought into existence two opposite types of sociological theory about social functions and the effects of war. "According to one type of theory, war and struggle have been the principal factors of human progress and have exerted a series of most beneficial effects. According to the other type of theory, war is 'hell' and has exerted only the most disastrous influences on various sides of social life. Both types of opinion are supported by prominent social thinkers, . . ." Briefly speaking, the latter maintain that the fighting strength of the country is composed of its "best blood." "This means that war exterminates the 'best blood' of a nation in a far greater proportion than its 'poorer blood.' This means that war facilitates the survival of the unfit" by exterminating "the best progenitors of the future generations,—the bearers of the best racial qualities. It favors a propagation of the poorer blood and in this way it is a factor of negative selection and of racial degeneration." Exponents of the positive school maintain that although the negative results may have been the dominant ones during former wars, in more recent wars the "best blood" is not necessarily wiped out since among other factors the greatest number of fatalities are due not to actual warfare, but rather to epidemics to which the physically weak are more susceptible and that also today probably more than ever before, "superiority in intelligence is a great asset among fighting men."¹⁹

¹⁸ *The Range of Social Theory*, pp. 39-40.

¹⁹ *Contemporary Sociological Theories*, pp. 328-356.

CHAPTER IX

TYPES OF APPROACH: THE PSYCHOLOGICAL

The Expanding Psychological Approach. The psychological approach to the study of human society is bounded on one side by the biological, on another by the anthropological, and on others by the economic and politico-juristic, and the sociological approaches as may be observed from the several chapters presenting these types. The psychological approach offers an excellent example of much that is developing in the modern social science program, technique, methods, and scope. It exemplifies both the contribution which a single social science may make to other social sciences, and its dependence and close interrelationship upon and among them. Without neglecting its own special techniques and materials it nevertheless becomes an indispensable part of other approaches to social study and research. It exemplifies well the newer enthusiasms and reaches which some of the social sciences are developing, and like the biological and anthropological, the psychological approach has assumed a new and more comprehensive rôle in the total scheme of social research. Without accepting at full value all the estimates concerning the psychological approach, we may nevertheless gain considerable insight into the present tendency by examining samples.

L. L. Thurstone thinks psychology has developed the biometrical methods of the study of groups further than the other social sciences and that the methods are fundamentally the same in their application to biological and social data.¹ *Floyd H. Allport* goes so far as to classify behavioristic psychology and political science in the same category on the ground that political science, as a natural science, describes the motivation of leaders and groups.² *L. L. Bernard* refers to the new social psychology as an intermediate science between the intellectual frontiers of psychology and sociology which threatens to absorb or transform

¹ *American Political Science Review*, XVII, 111.

² W. F. Ogburn and Alexander Goldenweiser, *The Social Sciences and Their Interrelations*, ch. xxii.

the most fundamental content of both the old sciences.³ *Hornell Hart* makes his *Science of Human Relations* a study of social psychology.⁴ *S. Daniel House*, ranking civilization as a study in psycho-pathology, estimates that its baffling problems "can be wisely approached only from the dynamic and humanistic point of view of the new type of psychiatry which the science and art of education are developing for the rational amelioration of our irrational lives."⁵ *Ogburn and Goldenweiser* appraise the psychological approach when they emphasize the fact that "the social sciences are all, in a sense, psychological, that the facts they deal with belong to the psychological level, that the processes of intercommunication without which there could be no society and no social science, are intercommunications between minds." They recognize, along with positive contributions, the danger involved when psychology injected into the social sciences "the poisonous virus of a hazy ideology, of instincts; and even today, when the advances in experimental and pathological psychology are proving of inestimable worth to social theory, the uncritical use of psychoanalysis is threatening the sanity of the sociologist and even of the toughest historian, while the bodily transfer of behavioristic ideas from psychology to social theory is responsible for much barrenness of the 'institutional sociologists'."⁶

Human Behavior the Key Problem. The psychological approach finds the key to social research one of human behavior and offers supporting evidence of its significance from the political scientist, the economist, the anthropologist, and the sociologist who are brought constantly up against the social "problem" of human behavior in all its phases. While this problem of behavior is a complex one, having its beginnings and interrelationships in biological backgrounds, to many students of society it is primarily a matter of psychological approach. The "behavior patterns," according to Park and Burgess, are based upon attitudes, which after all become matters of psychological approach. Ribot has pointed out how the biological concept of individuality and personality takes into consideration the higher evolution of the individual and the increasing complexity of environment. Thus, too, culture

³ *Ibid.*, ch. xxviii.

⁴ Preface, pp. v-ix.

⁵ "Psychiatry to the Rescue," *The Psychoanalytic Review*, XV, 151. Note again that references to discussions to the psychological approach are not limited to psychologists, but reflect a varying "attack" upon the problems of human behavior.

⁶ *The Social Sciences and Their Interrelations*, p. 7.

patterns are inseparably related to behavior, and the whole problem of abnormal behavior, crime, and dependency, according to the Freudian school, have their basis in the psychically disturbed personality.⁷ In the opinion of students like Allport the influence of the psychological approach is important in its effect upon the choice of materials, definition of units, and nature of the conclusions. One thinks, for example, of such things as Kroeber's attempt to investigate the psychology of the cultural level by measurements of stylistic change, Hamilton's studies of marriage, Anderson's child study observation of children's groups, Thrasher's description of gangs, the social facilitation experiments in psychology, measurements of attitudes by Thurstone and others, the social distance people, and the like. All these are attempts at psychological approaches and they rest for the most part upon different fundamental theories of the nature of social and socio-psychological data.

This "behavior" emphasis is not merely that of the "behavioristic" school, but psychology, as *Kimball Young* puts it, as "the science of behavior and of associated conscious processes⁸ and the psychology of *L. L. Bernard* as the study of the "behavior of organisms mediated primarily through a nervous system," but also "conditioned quite as much by society as by the neuron and other aspects of the organism." Thus also *Bernard* terms *Perrin* and *Klein*'s psychology behavioristic in that they try to explain human behavior, its origins, underlying drives, and modification by learning and adaptation.⁹ Just how closely the psychological approach is related to that of the biological may be seen from the fact that the psychologist, among other things must needs study all the bodily mechanisms which go with the emotions, intellectual effort, and physical activities. He is, as *C. Judson Herrick* has pointed out, "interested in the whole field of animal and human behavior as the organic background of mental life and as a part of its instrumentation; and he must study all of these things in relation to physical, biological, and social environment within which they have grown up and are now operating."¹⁰ Thus the psychological approach is essentially an emphasis upon human and social behavior. *Charles A. Ellwood*

⁷ Floyd N. House, *The Range of Social Theory*, ch. xv.

⁸ H. E. Barnes, *The History and Prospects of the Social Sciences*, ch. iv.

⁹ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, ch. xxviii. Also *Bernard*, "Some Recent Trends in Psychology and Social Psychology," *Social Forces*, VII, 160-161.

¹⁰ "Behavior and Mechanism," *Social Forces*, VII, 1-11.

links biology and psychology together as best able to furnish principles for interpretation of the facts of human behavior. "The 'social' is not a realm by itself, but is built up out of the biological and psychological."¹¹ The range of attack and method extends from the earlier analogical concepts of society and the social mind, through various comparative methods of study, to current ambitious programs, to explain and direct all of society and its problems through psychology and its psychiatric application. The study of mental processes in their relation to human nature, the social personality, collective behavior, and social institutions is of paramount importance. Thus has developed the newer social science as exemplified in social psychology, which in itself constitutes a comparatively complete approach to social study and social research. The political scientist finds his problems defined in terms of social behavior with reference to leaders and constituency. Among those who have recently emphasized the behavior basis of the political group are *Charles E. Merriam*, *Floyd H. Allport*, *Stuart A. Rice*, *Graham Wallas*, *Walter Lippmann*, and *Herbert Croley*. The economist finds human factor in the behavior of prices and production, *Wesley C. Mitchell*, *William F. Ogburn*, *Carlton Parker*, *Ordway Tead*, and others having thus approached economic problems; the historian discovers fundamental psychic factors in civilization, as *Oswald Spengler*, *H. G. Wells*, *Frederick Turner*, *James Harvey Robinson*, and others; the sociologist finds a key to pluralistic behavior, as evidenced by most recent students, and the whole field of social research appears to envisage the phenomena of a socially behaving world.

Organic Analogies. Like the philosophical and the biological, the older psychological approach has not been without its organic and analogical conceptions which might be termed socio-psychological or psycho-sociological, and sometimes psycho-political. Perhaps the most common analogy has been that of the social mind as a separate entity existing separately and organically apart from the individuals of society, sometimes conceived as a product, sometimes controlled by individuals, sometimes controlling individuals in their development. There was a mob mind and a crowd mind, a social consciousness, a social will, and other organic social phenomena. And the theory that the brain as an organism constituted the real personality of the individual was held by no less distinguished authority than Ribot.

¹¹ "Scientific Method of Studying Human Society," *Journal of Social Forces*, II, 330.

Even *August Comte's* "immense organism" had psychic qualities of co-operative and collective consensus.¹² *D. Draghicesco* parallels the functionings of the mind with social processes. The mind is both analytic and synthetic. In its analytic functions it is a counterpart of the "progress of social differentiation," while its synthetic ability reflects the "fundamental social process of an integration of small groups into larger and larger ones." As society becomes more complex there is ever greater social differentiation and added interstimulation, adaptation to which results in a superior intelligence. As with the mind and social processes, so also the "individual soul is but a microscopic reflection of the social world." *Georg Simmel* and *Émile Durkheim* developed a series of theories which led to conclusions that social processes are correlated with psychological processes "that the human mind is but a reflection of a social world and its characteristics; that the logical categories of space, time, causation, quality, quantity and abstract concepts, religious ideas, and moral values originated and grew through the factor of social interaction; and that they are essentially the reflections of embodiments, or symbols of the society itself." To *E. De Roberty*, "psychological phenomena are to be explained through biological and social factors" since they are the "result and not the cause of social interaction." Even *Ludwig Gumplowicz* held that "the chief concern of sociology is not the individuals, but exclusively the groups; and that individuals in themselves are nothing but the mere product of a group." *É. Durkheim* stresses the fact that "collective consciousness, composed of different elements, specifically differs from individual consciousness; and that 'not in psychology, but in the very nature of society, it is necessary to look for an explanation of social life.'" *Gustav Ratzenhofer* explains the structure and function of society through an analysis of the interests of the individuals who compose the group.¹³ *Floyd H. Allport* finds that even among the psychologists "A few dying echoes of the social mind metaphor are still to be heard. With the 'collective racial unconscious' of the Jung school we may class Rivers' elaboration of social conflict upon the analogy of mental conflict in the individual. Bodenhafer argues that every sort of datum studied really begins as an aggregate of units. Opponents of the group mind have been aggressive. M. Ginsberg finds the 'group mind' and 'general will' to be concepts quite incompatible with psychological notions of mind and will. Perry's amusing analysis

¹² R. E. Park and E. W. Burgess, *Introduction to the Science of Society*, p. 24.

¹³ For more detailed references to these and other analogies, see Pitirim Sorokin, *Contemporary Sociological Theories*, ch. viii; J. P. Lichtenberger, *Development of Social Theory*, ch. xv, and Floyd N. House, *The Range of Social Theory*, throughout.

deflates collective mind to verbalism and abstraction of inconsequentialities. Laird and Hubert have given further penetrating analyses. Allport has assailed Rivers' pathological metaphor, and has urged against the practice of prefixing the term 'social' to psychological terms (*e.g.*, 'social habits'), a usage likely to prove a veiled form of the group mind fallacy. Sociologists have objected to Allport's contention, in the same paper, that such concepts as 'the group' and 'the super-organic order' are valid only for descriptive, *not for explanatory*, purposes.¹⁴

Other Earlier Psychological Approaches. Not all of the earlier psychological approaches to the study of society, however, were of the analogical sort. Indeed, the recognition of the failure of the organic analogies emphasized the need for more objective and experimental contributions and the psychological approach was the logical next step. And sociology as a psychological science is as old as "modern" sociology as measured by August Comte's working out social problems from the subjective and metaphysical to the objective and positive. Other earlier theorists using the psychological approach included Spencer, Le Bon, Ratzenhofer, Durkheim, and others listed below. As early as 1899 *Franklin H. Giddings*, calling attention to the fact that biological concepts were first used because biology supplied the first facts, insisted that "At present, however, all serious work in sociology starts from psychological data, and proceeds by a combination of psychological with statistical and historical methods."¹⁵ And *Charles A. Ellwood* has stated that "the method of psychological analysis has practically created economics, the most developed of the social sciences."¹⁶ *Charles H. Cooley* drew heavily upon the psychological and at the same time made important contributions to the psychological approach in his emphasis upon the personality of the individual in relation to association groups.¹⁷ In many other theoretical approaches to the study of society the psychological approach has been prominent.

A. Fouillée's concept of *idea forces* may be contrasted with *Gabriel Tarde's* explanation of social phenomena through beliefs and desires and their interactions. Social interaction takes

¹⁴ "The Psychological Bases of Social Science," *The Psychological Bulletin*, XXII, 565.

¹⁵ "The Psychology of Society," *Science*, IX, 16.

¹⁶ *Sociology in its Psychological Aspects*, p. 89.

¹⁷ *Human Nature and the Social Order*, *Social Organization*, and *Social Process*.

three principal forms—imitation, opposition, and invention, as the “source” of social change. *Lester F. Ward’s* psychological interpretation of social phenomena was based upon a conscious direction of social forces. Desires or feelings furnish the dynamic energy of society and are, therefore, the fundamental social forces. But the social process is not left to blind chance as is the natural process, since these social forces can be directed as society desires. The human intellect is the agency or “condition” which guides but does not propel the desires; and ways and means are thus derived. As society advances, this function of intellect increases, and man’s social adaptation becomes more and more artificial, but with universal happiness as the ultimate aim. *E. A. Ross’s* theory is that desires are social forces. “The desires are classified into two large classes: the natural and the cultural. The natural desires are: (a) appetitive (hunger, thirst, sex-appetite); (b) hedonic (fear, aversion to pain, love of ease, warmth, sensuous pleasure); (c) exotic (shame, envy, love of liberty, of glory, of power); (d) affective (sympathy, sociability, love, hate, jealousy, anger, revenge); (e) recreative (play impulses, love of self-expression). The cultural desires are: (a) religious; (b) ethical; (c) esthetic; (d) intellectual.” *Albion W. Small* maintained that the whole life process, whether from the point of view of the individual or of society, consists in developing, adjusting, and satisfying interests. Of these interests there are six classes: health, wealth, sociability or prestige, knowledge, beauty, and rightness. *Franklin H. Giddings’* consciousness of kind and pluralistic behavior; *Charles A. Ellwood’s* feeling emphasis; *Sumner and Keller’s* hunger, love, vanity, and fear; *Sigmund Freud* and the socio-psychiatrists’ sex emphasis; *Emile Durkheim’s* over-soul and over-mind emphasis; *Spencer’s* psychical-physical interaction; *Havelock Ellis’* sex behavior; *W. I. Thomas’* desires are representative of others in the long list of scholars who have tried to find out what society is and how it works, through the psychological doorway.¹⁸

Recent Trends in the Psychological Approach. Recent trends in the psychological approach may be observed from several other viewpoints. One is through the development of psychology itself from the old subjective and metaphysical to the newer objective and scientific. Another is through the special social science, called by Ogburn the border science and Bernard the intermediary science, of social psychology. Still another is through the composite con-

¹⁸ See further Sorokin, *Contemporary Sociological Theories*, ch. xi; Lichtenberger, *Development of Social Theory*, ch. xiii; E. S. Bogardus, *History of Social Thought*, ch. xvii.

tributions of social psychology to all the social sciences; and perhaps a final way is to examine the contributions of psychology to special social problems and concepts. As for psychology itself it has evolved, like other social sciences, from the metaphysical to the scientific, and in so doing has opened up entirely new domains of social research. From the old "mental and moral philosophy" we have come to the new science of behavior. As Allport puts it, "the emphasis in America has shifted from man as possessed of a stream of consciousness, containing inner perceptions, ideas, and feelings, to man as an organism adjusting his behavior by learning, thinking, and emotional reaction to the necessities of his environment."¹⁹ And discussing "Social Psychology and Human Values," he insists that "we need a science which shows us the individual, not as isolated in the psychologist's laboratory, but as stimulating and responding to others, as influencing and being influenced by others in the give and take of daily life—a science, in other words, of social behavior."²⁰ Allport, in the reference just cited, contrasts the new with the old. "The older psychology, dealing with human beings as reacting apart from their group, affords many principles by which we may direct action. But since it shows us no picture of social processes, it does not help us to understand or reflect upon the controls to which we are subjected. Hence there is no opportunity to acquire free moral responsibility and control over one's self. Insight into the psychology of social relations, on the other hand, reveals the subtle processes through which one individual dominates others and gives to each, so long as liberty does not extend to license, a greater freedom to arrange his life according to his own pattern. The potential service of social psychology, therefore, lies in its bestowal of power, not over human nature, but over the agencies which exercise power. It gives control over control." L. L. Bernard presents some summaries from an examination of a score of new volumes and finds six general trends.

¹⁹ Ogburn and Goldenweiser, *The Social Sciences and their Interrelations*, ch. xxii. It is not the purpose of this chapter to present any sort of outline or symposium of the meaning and scope of psychology or of the nature of the psychological fact, but merely to indicate the nature of the psychological approach to social research in its varying aspects. For interesting notes on the development of psychology, see G. Stanley Hall's *Life and Confessions of a Psychologist*.

²⁰ *The International Journal of Ethics*, XXXVIII, 375.

"There is an attempt at integration of the subject by relating the field and its findings to the general principles and methods of science. The tendency is definitely toward the study of behavior rather than the analysis and literary exploitation of concepts. The sociological background, especially in the form of an analysis of the social environment and its incidence, is being increasingly recognized and applied. This is manifested specifically in the growth of social psychology and in the emphasis upon the psychology of personality within the field of social psychology. The present tendency is to account for personality in terms of the dominance and conditioning of individual traits by environmental factors. There is also a strong tendency to explain collective behavior in terms of individual responses to conditioning environmental factors, as in the cases here reviewed of socialistic theory and revolutionary philosophy. Finally, the saner theories of the psychoanalysts are taking root effectively in the field of social psychology, especially as an aid to the explanation of personality development."²¹

The Inherent Basis of Behavior. One of the newer contributions of the psychological approach has been the scientific study of the equipment of the human body as the inherent basis of individual and social behavior, the social behavior being explained through social psychology in terms of conditioning of the individual traits through social environment. There are, therefore, two new major contributions, the one the closer approach to the physical sciences in the biological and comparative basis of conduct, and the other in the social behavior of the individual and group which is social psychology. Some of the special features of the former are seen in the treatment of the biological and anthropological approach, while various aspects of the latter are found in the economic, politico-juristic, and the sociological approach, as well as in the psychological itself. In the previous chapter we have referred to the biological basis of the psychological products of conduct and of other physical backgrounds of behavior. Two other important aspects of this study of backgrounds of conduct in which larger contributions have been made are those in

²¹ "Some Recent Trends in Psychology and Social Psychology," *Social Forces*, VII, 160-163.

the study of "the behavior patterns integrated in the neural protoplasms," and the behavior of animals.

Ample treatment of the new approaches to social study through the structural basis of the individual may be found in the works of *L. L. Bernard*, *John B. Watson*, *Robert S. Woodworth*, *Kimball Young*, *Floyd H. Allport*, *William H. Burnham*, *English Bagby*, and others in which human behavior is explained in terms of patterns determined partly through heredity and partly through environmental conditioning of reflexes and urges and the influence of early learning.²² In the study of animals newer contributions have been made by *E. L. Thorndike*, *C. J. Herrick*, *W. Kohler*, *R. M. Yerkes*, and others, which go to show how some of the conduct of animals, especially the higher primates, is similar to man because their inherent bodily equipment is similar. Thus the chimpanzees exhibit many traits and actions similar to those of human beings and they can be studied and often explained because of their relatively simple manifestations not available in the study of children or of older human beings. The study of intelligence, learning, sex conduct, and many other features may be pursued effectively through this general approach. And while the caution always necessary in comparative or analogical study should be kept in mind it is evident that here is a valuable approach not yet fully utilized.²³

Social Psychology. After all, however, the psychological approach may be interpreted largely as a matter of social psychology which includes the whole field of social conditioning and relationships. Thus L. L. Bernard's summarizing verdict estimates that the "science of psychology lies between biology and sociology and overlaps both. It studies the organization and functioning of behavior patterns in the neuro-protoplasms of individual organisms, especially those of the human species. Its chief organized and logically schematized contact with sociology is through the newly integrated and overlapping science of social psychology.²⁴ *H. P. Weld* recognizes only two larger aspects of social

²² Bernard's *Introduction to Social Psychology*, and various papers; Watson's *Behavior: An Introduction to Comparative Psychology*; Woodworth's *Psychology: A Study of Mental Life*, and *Dynamic Psychology*; Allport's *Social Psychology*; Burnham's *The Normal Mind*; Bagby's *The Psychology of Personality*; Young's *Source Book in Social Psychology*.

²³ See Herrick's *Brains of Rats and Men*; Kohler's *The Mentality of Apes*; Yerkes, *Almost Human*. See also ch. viii of Frank H. Hankins' *Introduction to the Study of Society*, and Grace Adams' "Animal Mentality" in *American Mercury*, XV, 197-199.

²⁴ *An Introduction to Social Psychology*.

psychology in the genetic psychology of peoples and in collective psychology.²⁵ Kimball Young considers the field of social psychology under a more detailed grouping, including the *social mind theory, the doctrine of social attitudes and social habits, personality, and society.*²⁶ L. L. Bernard presents the field in a more comprehensive layout, comprising the *foundations of collective behavior, the integration of personality in the psycho-social environment, and the psycho-social environment and the organization of collective behavior.*²⁷ Floyd H. Allport sees chiefly *the individual in his social aspects and social behavior.*²⁸

Allport's definition of social psychology will serve to illustrate the significance of social psychology to the whole psychological approach which has developed so radically from the first beginnings in Tarde, Bagehot, Le Bon, and Durkheim. "Social psychology is the science which studies the behavior of the individual in so far as his behavior stimulates other individuals, or is itself a reaction to their behavior; and which describes the consciousness of the individual in so far as it is a consciousness of social objects and social actions." L. L. Bernard contrasts another concept as found in Charles A. Ellwood. Whereas to Allport, from the viewpoint of the trained psychologists, social psychology has to do with something occurring within the behavior of the individual, to Ellwood, "as representative of those who approach social psychology from the standpoint of sociology, social psychology is the subject which deals with the psychic aspects of social groups and social life generally."²⁹ Kimball Young includes both aspects when he says "social psychology employs psychological concepts in explaining the life of individuals in groups or of individuals as affected by other persons or themselves affecting these persons." The two approaches are through group behavior dealing with crowds, assemblies, castes, sects, yet affected by imitation, feeling, habit, suggestion, and second, through the individual himself.³⁰

The Institutional Approach. Much of the present trend in the psychological approach is reflected in current examination of institutions. We have already referred to the psychological bases underlying certain studies of economic aspects of society

²⁵ *Psychology as Science.*

²⁶ H. E. Barnes' *History and Prospects of the Social Sciences*, ch. iv.

²⁷ *An Introduction to Social Psychology*, pp. ix-x.

²⁸ *Social Psychology*, pp. ix-xi.

²⁹ Ogburn and Goldenweiser, *The Social Sciences and their Interrelations*, ch. xxviii.

³⁰ H. E. Barnes, *History and Prospects of the Social Sciences*, ch. iv.

and in Chapter XII we shall discuss certain aspects of "institutional economics." It is, however, not only in the economic phases of social institutions but in all phases that the psychological approach is assuming larger proportions and contributing more scientific techniques. New developments may be illustrated by two opposing viewpoints. One is the oft-repeated attempt to invest institutions with the nature and force of separate entities, which Floyd H. Allport terms an *institutional fallacy*.³¹ He points out a number of such fallacies in Charles H. Judd's thesis that individual nature and institutions are separate and mutually opposed realities,³² and attempts to study institutions as natural phenomena.³³ Thus, psychologically, the institution is to Allport a large number of similar and reciprocating habits of individuals which have been acquired slowly and are difficult to change except through gradual relearning.

Allport's striking theses have been variously stated. Thus, "institutions do not form a new level of natural phenomena superseding prepotent (instinctive) behavior, but grow directly out of such behavior through learning and invention. They are in fact merely complex modifications of original responses, and are developed in the process of adapting to a world of natural objects mainly through and with the help of one's fellow men." And again "the concern of the social psychologist is clear thinking about the nature of institutions themselves and the concealment of controls and confusion of means with ends which are carried on in their name. The administrator and the jurist try continually to build up a popular respect for law as a transcendent reality. Their aim, in part, is to foster a veneration of courts and high executives and a morale for civic participation. For the social psychologist, however, there remains the task of discovering how such fictions as a superhuman law, infallible courts, and sacrosanct presidents have come to be a part of the social heritage. He must inquire what errors and abuses of power are sometimes committed under the cover of these doctrines. In every field of institutional behavior the social psychologist finds material for studying, from a disinterested standpoint, the processes of control over individuals. He is ever on the alert to observe, not how human beings can best be adapted to serve

³¹ "The Nature of Institutions," *Social Forces*, VI, 178.

³² *The Psychology of Institutions*.

³³ "'Group' and 'Institution' as Concepts in a Natural Science of Social Phenomena," *Proceedings of the American Sociological Society*, XXII, 83-99.

human purposes, but what happens in the process through which such an adaptation takes place.”³⁴

Other Contributions. Many special contributions to social science, interrelated with and overlapping in many ways with those already cited, have been made through the psychological approach. Among these are the special emphasis upon personality, culture and culture patterns, races and groups, intelligence and character tests, folk-psychology and the study of political leadership, *gestalt* psychology, psycho-pathology and psychiatry, together with many concrete social problems through which the psychological approach assumes a rôle of first importance. Thus personality has become a key to the interrelation between individual and society, between organic physical backgrounds and social development. Ernest R. Groves³⁵ has shown much of the significance of psychoanalysis and behaviorism to the genesis and development of the social being, and English Bagby has³⁶ emphasized certain abnormal aspects of maladjustment, while many studies of maladjusted personalities have been made through the psychological and case methods, such as those of W. I. Thomas, W. H. Healy, and others. And in approaches like C. H. Cooley's already referred to, personality becomes closely linked up with culture, itself a key approach to the study of society.

While the study of culture is perhaps more comprehensively aligned with the anthropological and sociological approaches, it has much of its basis in the psychological, which again illustrates the essential interrelation of psychology with other social sciences. Floyd H. Allport³⁷ makes certain summaries of this combined approach and co-operative study. “The culture problem has come to the fore through Ogburn's brilliant discussion of social change. Though recognizing psychology, this author states his laws of culture-dynamics (rate of change, accumulation, inertia, lag, etc.) from an inductive survey at the cultural level itself. Allport's criticism alleges that this treatment is too much limited to description, explanation being possible only by considering the human individual (biological and psychological)

³⁴ “Social Psychology and Human Values,” *The International Journal of Ethics*, XXXVIII, 383.

³⁵ *Personality and Social Adjustment*.

³⁶ *Psychology of Personality*.

³⁷ “The Psychological Bases of Social Science,” *The Psychological Bulletin*, XXII, 569.

as the unit of social change. The rôle of the individual has also been stressed, in respect to leadership, racial traits, capacity, and biological aspects, by *Blackmar, Hankins, Chapin, and Huxley*. But the strongest support has come from the anthropologist himself. *Clark Wissler* significantly asserts that culture is founded upon human behavior, which may be both innate and acquired. Although culture transmission may account for the content of the culture pattern (acquired behavior) in any people, it can not explain the form of that pattern, a form which is peculiar to mankind and universal among all races. *Wissler's* effort to link up the various complexes of the universal pattern with instinctive categories, though tentative, is nevertheless ingenious. *Allport* offers an explanation of the cultural trait-complexes through the universal operation of the prepotent responses." *Floyd N. House* thinks that perhaps the "larger number and perhaps the more interesting of the recent contributions to the literature of psychology and social psychology have dealt with the processes by which habits, attitudes, wishes, and ideas are formed in the course of individual experience and social interaction. . . . A great deal of research effort has been devoted, however, to the invention, refinement, and utilization of quantitative tests—tests of 'intelligence,' of 'will profile,' of 'temperament,' and of special aptitudes. The prevailing current attitude, on the question of the relation of original nature to performance in mental tests, may be characterized as one of lively interest, but of inconclusive findings."³⁸ Again the whole field of psycho-pathology and psychiatry is in itself a large psychological approach and becomes a specialism. Indeed the whole field of psychiatry and psychiatric social work, represented perhaps best by the American Psychiatric Association, offers a separate type of approach to the study of human society. Still another avenue of psychological approach which seems to give considerable promise to the social scientist is that of the new *gestalt* psychology which tends to interpret conduct and behavior in terms of total situations, explaining variations in the behavior of different individuals and of the same individuals at different times, and the behavior of groups, through the varying environmental "set" and circumstances as a whole. It is a form of "pattern" approach.

Psychology and Special Social Problems. The special problems of population, war, the family, and regional situations, which have been selected for illustrative purposes in this volume are peculiarly dependent upon the psychological approach for their analysis and solution. Problems of population involve many com-

³⁸ *The Range of Social Theory*, pp. 133-134.

plex factors of social conventions, patterns, morality, race prejudice, and reactions which cannot be analyzed without the assistance of psychology. *Mores*, custom, convention, moral sanctions, religious control, mass psychology, and many other psychological factors enter into the make-up of most problems of the family. Likewise the study of war involves propaganda, emotional bias, prejudice of all sorts, race struggle, international conflicts, mass and mob action, morale, and many similar phenomena which constitute the backgrounds for any sort of scientific analysis of the problem. And in the analysis of regional situations in the South, psychology will yield unusually rich results in the study of race and race prejudice, culture and culture patterns, religious and political behavior, customs and morals, leadership and institutions, industrial development and labor unionism, folk-lore and folk backgrounds, and many other aspects of regional culture and civilization. Examples of concrete studies of a psychological nature may be found in the notable efforts of Joseph Peterson in "Methods of Investigating Comparative Abilities in Races,"³⁹ Carl Seashore and Milton Metfessel in experimentation in phonophotography in folk-music,⁴⁰ N. N. Pucket's inquiries into folk-beliefs of southern Negroes and into the development of their religion,⁴¹ and in other similar studies in this field.

³⁹ *Annals of the American Academy of Political and Social Science*, CXXXXX, 178-185.

⁴⁰ *Phonophotography in Folk-Music*.

⁴¹ *Folk Beliefs of the Southern Negro*.

CHAPTER X

TYPES OF APPROACH: THE ANTHROPOLOGICAL

The Study of Man. From long neglect in the past to a large place in the program of social research the present-day anthropological approach to the study of human society has made unusually rapid progress. It finds its genesis and development in the data of primitive folk and culture and in the distinction between man's biological or organic and social evolution and the evolution of life in general. That is, where biology has not been able through adequate facts and technique to find out about and analyze social evolution, or to state man's place in the universal scheme of things in terms of objective laws, anthropology sets up its special approach. It undertakes to study human evolution and society through both the special techniques of cultural approach and the anthropometric study of man and animals, especially the primates. The anthropological approach has been likened to "an extension of the concepts of uniformity and natural laws from physical and physiological events to human behavior above the animal plane."¹ In its study of culture, the anthropological approach draws heavily upon the psychological and the sociological. And just as biology has not satisfactorily explained human evolution, so psychology has not been able to explain satisfactorily social culture and its development. Anthropology, psychology, and biology join hands especially in such researches as Yerkes and Kohler have carried on in the study of anthropoid apes, while sociology, economics, and political science utilize various elements of the anthropological approach. Anthropology, again, is an excellent example of the coöperative effort in social research—there is no separateness of the "essence" of the anthropological approach, but rather the specialization which enables research to go a little further and to utilize more fully a new technique and approach alongside those of biology, psychology, and sociology.

¹ Cf. J. L. Meyers, in W. F. Ogburn and Alexander Goldenweiser, *The Social Sciences and Their Interrelations*, ch. vi.

"To most people, anthropology is a mass of curious information about savages, and this is so far true in that most of its observations are upon the less civilized. What is not realized," continues *Clark Wissler*, "is that anthropology deals with the communities of mankind, takes the community, or tribe, as the biological and the social unit, and in its studies seeks to arrive at a perspective of society by comparing and contrasting these communities."² Thus *Franz Boas'* broader conception of anthropology is that it "deals with the bodily form, the physiological and psychological functions, and the behavior of groups of men," and differs from physiology, anatomy, and psychology in that it deals with groups whereas they are interested in the individual.³ *Pliny E. Goddard* points out how in the past some "confusion in terminology arose out of a supposition that man's general behavior was purely biological and that therefore there was no need for a separate study of it. It is still true that certain eminent scientists still think that it is biologically conditioned, but the main contention of the American school of anthropology is to the contrary. That school contends that a large part of human activity is not the direct and traceable result of biological inheritance, but the accumulation of habits and customs through countless generations."⁴ *Robert Redfield* reminds us that "anthropology has no roots in philosophy. It arose out of a scientific interest in primitive and prehistoric man. Anthropological science thus grew up around a body of materials and not around a defined method. For this reason its relation to history and to natural science did not at once become clear. Its interest in this connection lies in the fact that anthropological method has been both that of history and that of natural science. *Franz Boas* embraced both methods. In this sense, anthropology is the science that endeavors to reconstruct the early history of mankind, and that tries, wherever possible, to express in the form of laws ever-recurring modes of historical happenings. The natural science method was once the anthropological method. In the early days, when anthropologists wrote under the dominance of the evolutionary viewpoint, before *Boas* had appeared to reduce their hypothetical schemes to unsound conjectures, anthropologists employed the comparative method, and were thereby natural historians or natural scientists."⁵

Analogy and Comparative Study. Since modern anthropology is comparatively new in the development of the social sciences

² Foreword in Robert S. Lynd and Helen Merrill Lynd's *Middletown: A Study of Contemporary American Culture*.

³ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p. 114.

⁴ "Anthropology in the United States Today," *The American Mercury*, VI, 459.

⁵ "Anthropology, a Natural Science?" *Social Forces*, IV, 716.

and since it does not have its genesis in philosophy so much as in a large body of observations and experiences, its approach reveals less of the analogical and metaphysical "systems" and more of the comparative and descriptive. Nevertheless, like the biological and psychological, the anthropological approach reveals some systematization, some analogy and much comparative study. Analogies are partial and comparative and less likely to confuse identity and similarity, as has been the case in many of the organic analogies utilized in other social disciplines. And yet the older anthropological approaches have been open to considerable criticism on the grounds that their comparative data were not adequately analyzed or used and that much of their conclusions came from analogy. Thus the pure evolutionist position itself was analogical in that it assumed man and society to be alike the product of biological evolution, just as other forms of life evolved, naively leaving out the cultural factors. Many of the observations and conclusions of earlier students of primitive society were made on the analogy of preconceived ideas and limited experience, without reducing them to what we shall later emphasize as the social denominator.

Thus *Lewis H. Morgan*, in many ways pioneering in the newer anthropological approach to the study of society, nevertheless interpreted constantly the American Indian's religion in terms of his own concept of the Greek and Roman and Hebrew religions and their crime and offences in terms of the English codes. In estimating the status of halfbreeds he was wont to assume complete causal factors in the biological fact of mixed blood, ignoring the cultural influences, the elements of time and relationship to civilization.⁶ In somewhat the same way a great many general conclusions concerning modern society drawn from primitive society are unreliable analogies because of time, position, and location influences and cultural factors left out of the picture. The economists, the political scientists and others have drawn conclusions in much the same way. *Charles A. Ellwood* states the objection and limitations to indiscriminate conclusions when he says "There are, however, grave dangers in this method when it is applied too uncritically to the interpretation of the existing social life of civilized peoples; for uncivilized peoples are not 'our contemporaneous ancestors,' as they have often been called, but in every case represent more or less divergent social evolution. There can be no question, however, as to the value

⁶ See *Lewis H. Morgan: His Life and Work*, a MS. by Bernhard J. Stern.

of this method when used with reasonable precautions by students who understand human history and human nature."⁷ On the other hand, *E. C. Lindeman* calls attention to the fact that "this use of analogy in the social sciences may serve a most helpful purpose. The sociologists who base their conclusions upon the findings of anthropology are for the moment popular because they have sought and discovered an abundance of examples, illustrations, parallels. The findings in this field are largely the result of a combined use of the historical and the analogical methods and it must be admitted that historical analogy lends itself to an exceedingly convincing expository form. Anthropology is by itself fascinating reading and when used as the basis for sociological inductions makes a very wide appeal. Happily the anthropologists have for the most part distinguished between true and false analogy. Therefore they have made and are making a most serviceable contribution to the other social sciences. However, in evaluating this contribution, one must not lose sight of the inherent deficiencies of the historical as well as of the analogical method."⁸ Thus Spencer and others, gathering large quantities of data from many parts of the world ushered in in a deductive way a more comprehensive comparative method which *Alexander Goldenweiser* appraised as "consisting in the accumulation of customs and ideas gathered from many places and periods, to substantiate developmental schemes arrived at through speculation."⁹

General Contributions. The anthropological approach is an excellent example of the composite problem of social research and, on the one hand, must not be allowed to revert to the overspecialized biological or physical aspects, or, on the other, to assume too large sociological approach to all social problems. The latter tendency may be noted among many scholars. Even Karl Pearson, in calling upon his fellow students of anthropology not to retreat "to our study of bones and potsherds on the ground that science is to be studied for its own sake and not for the sake of mankind," assumes anthropology to be the whole study of man, in which "the organization of existing human society with a view to its future welfare is the crowning task of man." And Franz Boas has already been quoted as seeing in anthropology the study of the behavior of man. From the viewpoint of this book, our

⁷ "Scientific Methods of Studying Human Society," *Journal of Social Forces*, II, 329.

⁸ *Social Discovery*, pp. 52-53.

⁹ Barnes, *History and Prospects of the Social Sciences*, ch. v.

problem is rather, to find out what general and special contributions the anthropological approach has made and how it can best continue to make them through its specialized techniques and coöperative research with the other social sciences. And such contributions are large; though necessarily limited in their specific and directing relations to the modern social situation.

Clark Wissler refers to the anthropological approach as a series of problems. *Sydnor H. Walker* points out these distinctions when she makes the appraisal that "Anthropology has contributed knowledge as to man's physical and racial history, has supplied a vivid picture of past societies, has indicated racial interrelationships, and has made valuable studies of living primitive groups. The light shed upon present-day problems is mainly derived from these sources; the focus is seldom upon such problems. It is patent that the complexity of civilized life makes studies of existing society immensely difficult as compared with past and primitive societies."¹⁰ Of the anthropological contributions to the working out of economic problems, *N. S. B. Gras* calls attention to the values which come from the study of economic changes among primitive people in the theory of economic determinism, in the origins of early economy, the division of labor, the exchange of goods, the concept and institution of property, production, and the general theory of stages of development in society. In these researches he thinks scholars should train themselves "in anthropology, economic theory, economic history, and social psychology" and that anthropologists and economists, though working at their own special problems might collaborate profitably to themselves. *John Dewey* finds plenty of anthropological data for the study of conduct as related to moral theory. There are some conclusions, however, among which is the fact of confusion between moral concepts and practices and various social customs and relationships, the emotional factor a constant one, no justification for economic determinism, and ambiguity as to whether ethical development has been toward or away from greater individuality. *A. T. Olmstead* notes an increasingly satisfactory *rapprochement* between the historian and anthropologists from which both may profit in method and findings. *Robert H. Lowie* finds in the anthropological approach contributions to the study of the laws of the family, of property, of associations and of the state.¹¹ *A. L. Kroeber* thinks that the two things which have emerged

¹⁰ *Social Work and the Training of Social Workers*, p. 180.

¹¹ For these and other interrelations see chs. i-x in Ogburn's and Goldenweiser's *The Social Sciences and Their Interrelations*.

from the present renewed interest in anthropology have been the better attitude of scholars working in the several social sciences and a new attitude toward culture. Concerning the former he says, "The other social sciences have now recognized anthropology as of their brotherhood. Sociology sees most anthropological material as its own. The New History proclaims that it will never be properly remade until it absorbs the whole range of anthropological data, those from primitive as well as those from civilized peoples. To be sure, the historians seem a bit chary of taking on this large programme in practice, and to date they have shown a strong inclination to stick to their good old last. But their theoretical openmindedness is clear, and that is a great deal. Economics and politics have perhaps moved more conservatively, but they maintain at least a position of benevolent neutrality toward anthropology."¹² *Clark Wissler* calls attention to other special relationships. Anthropology is one of the earth's sciences as are also geography, biology, zoölogy, etc. The anthropologist deals with the human group—with the behavior of these groups in which he knows he must expect great variation. Therefore to be a good anthropologist one must have considerable knowledge of the world, and the anthropologist puts great emphasis on geography. However, each anthropologist is interested in certain aspects of the subject. In a general way we may say that the anthropologist covers the whole field of antiquity not covered by history. He is interested in the prehistoric; thus to the naïve anthropology is the science of the savage. The anthropologist chooses to study the people who have no written history and is interested in reconstructing the world of the prehistoric period. In the Old World the lines between history and anthropology are very vaguely drawn, while in the New World there is no difficulty, there being a definite crosscut. The problem is to get as much of the cultures of these primitive peoples as possible. This explains the objective of anthropological research.¹³

The "Cultural" Approach. Perhaps the greatest contribution which the anthropological approach has made recently to the study of society has been that of the culture concept, although much of this has been stimulated and developed through a main sociological current and to some extent through the psychological as previously indicated. This cultural approach has broken away from the purely biological evolutionary concepts and has interpreted anew the development of human society in terms of societal

¹² "The Anthropological Attitude," *The American Mercury*, XIII, 490-496.

¹³ From special seminar lecture.

environment alongside the biological and physical. Frank H. Hankins has summarized his findings upon the cultural factors in social life under five general headings. In the first place he finds no evidence for the universal monotypical evolution of society although the "stages" concept of culture is well worth preserving and the whole is evolutionary in the sense that culture develops from simple beginnings to complex forms. In the second place, he finds the three ways in which culture grows to be diffusion, independent origins, and internal elaboration and adjustment. He finds further that culture is perhaps the most important factor in its own evolution, that the understanding of any culture must take into account the influence of the habitat upon human thought and activities, and that the course of civilization seems to be affected by the intelligence level and temperament of its population.¹⁴

The significance of the cultural approach is well stated by *C. M. Case*. "Far from being an extension of biology, the social sciences begin where the biological sciences end, and that is at the level where *culture* appears. Culture itself is, in the generally accepted definition by the veteran anthropologist, E. B. Taylor, 'that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society.' It is a phenomenon exclusively human and social. That is to say, culture is not the possession, so far as yet shown, of animals, and, on the other hand, no *human group* was ever found lacking a culture of relatively high complexity. In this respect a tremendous gulf separates man and the lower forms of life, the anthropoid apes and social insects not excepted. The social sciences all operate on this side of the gap, and the only kind of evolution with which they are directly concerned is *social evolution*."¹⁵ The anthropologists, however, have given the cultural approach its scientific bent and promise. *Clark Wissler* has been a pioneer. He estimates that there is no more difficult problem for man than to see himself in culture. Most of us spend a large portion of our lives without seeing there is such a thing. The European landing on the shores of the New World considered his way of life and doing things the only way and, if the new peoples did not do things his way or show any inclination to do his way they were "without the pale"—they

¹⁴ *An Introduction to the Study of Society*, ch. ix. See also especially Russell G. Smith, "The Concept of the Culture Area," *Social Forces*, VII, 421-432, for the best summary yet presented.

¹⁵ *Outlines of Introductory Sociology*, pp. xxix-xxxvi.

were savages. This would naturally lead to a lack of sympathy and a lack of understanding. The whole history of colonization, control, and contact with other people seldom shows the least consciousness that these other people have something that parallels what we may call culture. The anthropologist is trying to glimpse culture as group phenomena. He considers that he is dealing with group phenomena and not with individuals. To aid in analyzing culture, the anthropologist has set up certain terminology. He uses the terms *elements of culture* or *traits of culture* and also *culture areas*. As every culture trait is a complex thing which is difficult to separate out from the culture, the anthropologist has devised the term *trait complex*. Culture is a functioning phenomenon. Also, any culture is resolved into trait complexes, even up to sex and family. We see that culture complexes travel rather easily from one tribal group to another. This is called by the anthropologist *diffusion* or sometimes the *law of diffusion*. The law of diffusion maintains that culture trait complexes tend to spread irrespective of the tribal group in which they originate. The two theories with reference to the origin of trait complexes are the theory of single origin, and the theory of multiple origin. The important thing about the diffusion of culture is that it is inclusive—an all-pervading process. After its origin it begins to spread and continues to spread. Conditions favorable or antagonistic determine the rate of diffusion. Traces of independent invention are comparatively few—most traits are pretty regularly diffused. In migratory tribes diffusion is the order of the day. But this doesn't contradict independent invention. Resistance to diffusion is ordered by geographic environment. These are all important approaches because every time we gain a true insight into diffusion we are gaining an insight into culture as a phenomenon. This conception is not only the property of the anthropologist but must be taken into consideration by all social scientists.¹⁶ A. L. Kroeber points similarly to the application of the cultural approach to the modern situation. "More important, because less channelled technically, is a widespread and growing attitude of detachment from the culture we are in; and with this detachment, the ability to conceive of culture as such. It sounds easy to attain this attitude; as a matter of fact, it is an uns spontaneous and therefore difficult achievement, requiring launching by special circumstances, and then long and consistent control. The special circumstances are a series of developments in the civilization of the last few centuries, unparalleled, so far as we know, in the history of the world. The systematic control

¹⁶ From special seminar lecture. See his forthcoming volume, *An Introduction to Social Anthropology*.

is what has brought a certain number of individuals in this civilization of ours to think and act anthropologically. The important thing is not that the science of anthropology is spreading a gospel. The reverse holds: it is because our culture happens to have finally reached the abnormal—and possibly pathological—point where it is beginning to be culturally introspective, and can lay itself on the dissecting table alongside a foreign or dead culture,—it is for this reason that anthropology exists. The science is the organized, codified symptom of a trend of the period. The trend, shared in by hundreds of thousands, is like a national sentiment; the few hundred anthropologists are the body of experts professionally engaged in applying the sentiment to new situations—with all the limitations of such a body.”¹⁷

Anthropogeography and Race. The problems of culture, are of course, interrelated with those of physical environment, race, population, migrations, and social change. The anthropological approach has made valuable contributions to the whole field through anthropogeography, which may be interpreted as the study of man in relation to place and of culture in relation to habitat.¹⁸ There was the anthropogeographic school of anthropologists led by Ratzel, which held, in general, that geographical environment is responsible for everything. This group has been opposed by the American anthropological group, as is pointed out by Wissler, although Ellsworth Huntington has been an exponent in America. “The so-called Boas School of anthropology, although an outgrowth of the old geographical school in Germany, opposes the extreme position of Ratzel’s followers, to the effect that geographical environment is responsible for everything but regards geographical influences as not only important but playing the major rôle in the shaping of cultures; that is, geographical environment is not a direct determiner to culture forms but a very great indirect influence.” The contrary view is that man makes his own culture, it is all a composite of life.¹⁹ Here again, the anthropological and sociological approaches join hands with other social sciences to undertake new researches in human and social geog-

¹⁷ “The Anthropological Attitude,” *The American Mercury*, XIII, 490-496.

¹⁸ See F. H. Hankins, *Introduction to the Study of Society*, ch. v.

¹⁹ From lectures of Clark Wissler. See also Ellsworth Huntington’s studies and books, *Civilization and Climate*, *Principles of Human Geography*, together with various studies of human geography and ethnology by Brunhes, Semple, Vidal de la Blache, Ratzel and others noted in the reading lists.

raphy. In much the same way the whole problem of race is interrelated and constitutes in itself a large special problem for the anthropologists and sociologists.²⁰

An example of the problems of research in this combined field may be cited in *E. A. Ross's* suggestion that "As never before, the world needs a great anthropological survey of the results of race crossing in those regions where it is going on or has recently occurred. The enterprise would require a board of anthropologists, ethnologists, and sociologists to work out the questionnaires which the field workers would strive to obtain answers to, the measurements to be taken, and the data to be sought. Then field expeditions should be sent into the most instructive areas of race crossing, such as Hawaii, Tropical South America, Brazil, Mexico, the South Seas, South Africa, the American South, the West Indies, Egypt, Portuguese Africa, the Sudan. The work might well be divided up between the larger universities, one taking Hawaii, another Macao, another Goa, another Jamaica. Thus Natal, Queensland, Morocco, Mesopotamia, the Marquesas, Tahiti, Syria, Trans-Caucasia might be handled each by one university expedition. Of course in distributing the tasks among the great institutions of learning, care should be taken to exclude the disturbing factor of racial and national pride. Let race crossing in the American South be investigated by expeditions sent out from European universities. Let American field corps look into the results of race crossing in Jamaica, the Cape Colony, and the French dependencies."²¹

Anthropological Approach to Special Problems. To the special research "problems," used in this volume often to illustrate the range of social research and the interrelation of the social sciences, the anthropological approach is invaluable. In the study of *war*, *population*, the *family*, and the various *regional* problems suggested as types, this approach offers essential steps. The whole social situation, for instance, in the southern region of the United States may be encompassed largely in terms of culture patterns. The

²⁰ It is understood, of course, that this chapter in no way purports to present an analysis of the field of anthropology; rather it is an index or a key to the anthropological approach. For a comprehensive study of the field of anthropology, see Franz Boas, *The Mind of Primitive Man*, *Anthropology and Modern Life*; Clark Wissler, *Man and Culture*; Goldenweiser, *Early Civilization*. See also especially good summaries in Floyd N. House's *The Range of Social Theory*, ch. iii, and Pitirim Sorokin's *Contemporary Sociological Theories*.

²¹ "The Greatest Research Chance in the World," *Journal of Social Forces*, II, 549-550.

situations resulting from cotton culture, diet, religion, mob action, Nordic stocks, climate and geographic influences, and many others, offer preëminently available problems for the most scientific of social research. The same is true of the folk backgrounds of whites and Negroes, of studies in social and physical isolation, and of classes of folks typified by mountain, flat woods, and mill villages, as well as of other dominant groups. In the study of the larger problems of population the ethnological approaches are essential to migration, intermarriage, culture.

In the study of war *C. M. Case* ascribes as the main causes combinations of instinctive and cultural forces and no inquiry into the larger field would be complete without the study of "the folk-ways" of war.²² And in no social problem does the anthropological approach offer more direct contributions, perhaps, than in the study of the family. Typical of its contribution is that dealing with family form, stability, and sex mores. *Edward Sapir* illustrates. "The earlier anthropologists were greatly impressed by the importance and the stability of the family in modern life. On the principle that everything that is true of civilized society must have evolved from something very different or even opposed in primitive society, the theory was formulated that the family as we understand it today was late to arrive in the history of man, that the most primitive peoples of today have but a weak sense of the reality of the family, and that the precursor of this social institution was the more inclusive sib (clan). Thus the family appeared as a gradually evolved and somewhat idealized substitute of, or transfer from, a more cumbersome and tyrannically bound group of kinsfolk. A more careful study of the facts seems to indicate that the family is a well-nigh universal social unit, that it is the nuclear type of social organization par excellence."²³

²² F. H. Allport, "The Psychological Bases of Social Science," *The Psychological Bulletin*, XXII, 570.

²³ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, pp. 101-102.

CHAPTER XI

TYPES OF APPROACH: THE POLITICO-JURISTIC

Perhaps in none of the general approaches to the study of human society has the modern movement shown more radical development than in the politico-juristic. Here are political scientists boldly setting forth, and often taking the lead, in coöperative work on fundamental problems of human behavior oblivious for the time of old techniques and concepts. Here are students of jurisprudence and legal scholarship urging that field to be listed among the major social sciences. Here, indeed, is an example of striking progress from the philosophical and formal to the scientific and dynamic. From our earlier study of the development of the physical and social sciences in the seventeenth and eighteenth centuries it was evident that quantitatively at least the most common approach to the study of human society was through political philosophy. Indeed it was often assumed that political science constituted all of social science since the state, as the community, as the social entity, was the supreme measure of status, structure, and function of society. Man was still the political animal, and consequently was the subject of continued speculative philosophy which was rife in the discussion of his rights, nature, and conduct. The juristic side of the approach, too, came still earlier through Greek philosophy, which did not distinguish between technical law and justice and all other forms of custom and control. Historically, the approach of political science is rich in analogy, in general philosophical theories, and in utopias which posit the perfect state of government and society. In the recent development of contemporary social science and research the approach of political science and jurisprudence has again become increasingly comprehensive, but in a far different way, in that it draws heavily upon and contributes to the approaches of social psychology, anthropology, human geography, economics and sociology, and in that it becomes more scientific. In the older study the approach was through abstraction and speculation; in

the newer political and juristic research the tendency is toward concreteness and objectivity.

Analogical and Organic Theories. In the political approach to the study of society analogies and organic figures were originally abundant and continued to hold considerable attention until very recently. We have already referred to Spencer, Lilienfeld, Schäffle, and Worms. Within their social organism the state was the brain and guiding element. However, Plato's organic state was the forerunner of them all and seems to have something in common with the modern intellectualist's ideal of the rule of the learned. The state was an organic whole composed of the appetites, the emotions, and the intellect, represented by the working class, the warrior class, and the philosophers or rulers. Another classic was Hobbes' *Leviathan*, which was a state or commonwealth itself, an artificial man of unknown dimensions and stature. Sovereignty was the *soul*, officers were the *joints*, reward and punishment were the *nerves*.

E. R. A. Seligman states that "the metaphysical concept of the state-organism was originated by Fichte, Hegel, and Schelling; the harmonic-organism theory was developed by Krause and Ahrens; the ethical-organism theory was explained by Schmittener and Waltz. Stahl conceived of the state as a 'political person' and Stein as a 'self-determined personality.' Lassen insisted on the state as a 'real personality with will, intelligence, and capacity to select the means appropriate to the end.' Finally, Gierke developed the super-organism concept by explaining the state as the 'supreme unity of essence.'"¹ Equally concretely organic and analogical were many of the later theories. W. Y. Elliott cites politico-juristic examples of much significance in the earlier types of study. Thus F. W. Maitland conceives the personality of corporate bodies to be "no fiction, no symbol, no piece of the state's machinery, no collective name for individuals, but a living organism and a real person, with body and members and a will of its own. Itself can will; itself can act; it wills and acts by the men who are its organs as a man wills and acts by brains, mouth, and hands. It is not a fictitious person; it is a *Gesamt-person*, and its will is a *Gesammtwill*; it is a group person and its will is a group will."² Jean Jacques Rousseau held the State of Nature to be an "ideal condition from

¹ "The Social Theory of Fiscal Science," *Political Science Quarterly*, XLI, 207.

² Introduction to his own translation of Gierke's *Political Theories of the Middle Ages*, p. xxvi; W. Y. Elliott, *The Pragmatic Revolt in Politics*, pp. 279-280.

which civilized man has deteriorated" by becoming sociable and thereby weak, dependent, and afraid. The family is the most ancient society, but it is a natural society since the children are dependent on the parents only until they can care for themselves. Under the Social Contract man surrenders his "person and force" to the "general will" but endeavors to preserve his individual liberty while gaining social solidarity. Although the surrender is absolute, all laws and contracts may be dissolved at will, even the social compact.³ *John Locke's State of Nature* is a State of Freedom and Equality. However, in order that there may be no infringement of liberty and that no man may harm himself or others, men unite in organized or political society. The family is the smallest social unit but cannot rightly be termed a little commonwealth since the family relationships are natural rather than political. Government is the expression of the collective mind and may be dissolved, while society is permanent.⁴

Essence and Comparative Analogy. The range of organic concepts in political and juristic study of society would in itself make an admirable object of research and measurement. Likewise the number and variety of abstract concepts and analogical entities appear commensurate with the number of students of government and the different approaches which they have made. Whether from the viewpoint of political science, political economy, sociology, jurisprudence, law, anthropology or philosophy, they are strikingly illustrative and range from the early seventeenth-century theorists steadily along to present-day coörganicists.

Harry Elmer Barnes has made a comprehensive survey of such concepts from the viewpoint of social theory. The list given here is a partial compilation of his summaries and is offered as an exercise in the review of method and content of law and political science. Samplings would include a considerable catalogue: *Cole's* unique entity; *Hegel's* spiritual essence; *Duguit's* purposive association; *Commons'* coercive institution; the brain-organism of *Spencer*, *Worms*, and *Lilienfeld*; the social organism of *Coker* and *Garner*; psychological versus social organism of *Fouillee*; aggregation of groups of *Althusius* and *Gierke*; purposive groups of *Mailand*, *Figgis*, and *Laski*; supreme human association of *Ward*, *Giddings*, and *Hobhouse*; microcosm of the whole human process of *Ratzelhofe*; organized control of the minority of *Gumplovicz*; policy of superior and inferior social groups of

³ J. P. Lichtenberger, *Development of Social Theory*, ch. viii.

⁴ *Ibid.*

Oppenheimer; creature of community of *MacIver* and *Cole*; collective policeman of *Novicow*, *Le Bon*, and *Sumner*; gregarious instinct of *McDougall* and *Trotter*; self-interest and voluntary contract of *Fouillée*; "synergism" of *Gumplowicz*, *Jenks*, *Small*, *Ward*, *Raizenhofer*, *Oppenheimer*, and *Simmel*; checks and balances of *Montesquieu*; restraint for conflict of interests of *Aristotle*, *John Adams*, *Madison*, *Calhoun*, *Gierke*, *Maitland*, *Figgis*, *Duguit*, *Laski*; interest groups of *Bentley*; working mechanism of *Lindsay*; social evolution of *Gumplowicz*, *Le Bon*, and *Spencer*; authoritative control of *Stein*.⁵

Analogical Forms and Processes. In addition to the analogies of essence and structure, the politico-juristic approach to the study of human society reveals also a wide range of concepts of the form of state and society and the kinds of direction, control, and freedom which have evolved. Thus political science inquired into many facts of society relating to community and organization, exclusive of mere political control. Most of the theories bordered upon analogical interpretation rather than upon objective description. They excelled in categorical classification. There was *sovereignty* as a key to control. Sovereignty itself was variously classified into several types: *absolute*, *personal*, *class*, *mass*, *property*, and *liberal* sovereignty. *Liberty*, as an essence, included *political*, *moral*, *social*, *intellectual*, *civil*, *fiscal*, *personal*, *class*, *local*, *race*, *national*, *international* aspects. There were many other *special concepts* around which theories were developed, such as *barbarism*, *absolutism*, *expansionism*, *imperialism*, *despotism*, *republicanism*, *democracy*, *aristocracy*, *oligarchy*, *monarchy*, *protocracy*,⁶ *theocracy*, *plutocracy*, *bureaucracy*, *sociocracy*, *physiocracy*, *clericalism*, *militarism*, *federalism*, *officialism*, *socialism*, *capitalism*, *liberalism*, *individualism*, *solidarism*, *pluralism*, and others.

In the process of development *William A. Dunning* gives four major influences exerting pressure upon the old status of government and law. "The first is the influence of religious ideas; the second is discontent with oligarchic misgovernment; the third is social and political conditions favoring equality; the fourth is abstract theory."⁷ The question may well be raised as to whether or not a fifth cause could be found in the modern crises that have

⁵ *Sociology and Political Theory*.

⁶ Professor Giddings refers to a "kleptocracy of brigands or conquerors" as sometimes constituting the beginnings of protocracy. *The Responsible State*, p. 19.

⁷ *History of Political Theories*, Vol. I.

followed the World War and in the very great social change and upheaval the world over. *Charles E. Merriam*, in his discussion of recent tendencies in political thought, lists three outstanding social features of this era. These are the further development of industrialism and urbanism, the new contacts of diverse races or nationalities, and the rise of feminism.⁸ From present indications it would seem that there is a fourth outstanding element, observable in that feature of the popular controversy over religion and evolution which manifests a tendency toward the domination of government by religious forces.

Analogy Extended to Natural Laws and Social Laws. One of the most interesting of the analogical approaches of the political and juristic scholars was that of natural law of association and natural rights of people. Just as there were natural laws running through physical life, so there were natural laws running through society. Nature and man, God and nature all became harmonized in the divine right of the people, whose equality of opportunity came through the divine-natural creation with equal rights for all. Once again, the current tendency of some social scientists to make of political science a natural science is significant. In the present instance the natural science comes from the quantitative measurement of human response to political stimuli, and is quite in contrast to any of the older references to natural science.⁹ The concept that political science has its foundations in human behavior and that its methods consist in the measurement of reactions and stimuli, however, have been stated by Bryce and Giddings with considerable emphasis.¹⁰

The most notable of the older specialists in law was *Montesquieu* who held that there were certain fundamental and eternal principles in politics similar to the laws of physics which result in relating all political and human relationships to their natural settings and causes. *H. Grotius* thought that even in relations between nations there were natural laws which needed only research and reason to discover their principles.¹¹ In contrast to these was *Calvin* to whom authority and law were "natural" attributes of God and religion. *Paul T. Homan* sees in this

⁸ *History of Political Theories: Recent Times*, Introduction.

⁹ F. H. Allport, "The Psychological Nature of Political Structure," *The American Political Science Review*, XXI, 611-618.

¹⁰ *Modern Democracies*, p. 14; *The Responsible State*, ch. ii.

¹¹ Barnes, *History and Prospects of the Social Sciences*, ch. viii by W. J. Shepherd.

search after natural laws new impetus for both political and economic explanations of society. "The new impetus was the scientific spirit, the new turn a search for the natural laws which govern the activities of mankind. This search was first pursued with any assiduity in the fields of political and legal thought, and the end in view was a valid and satisfactory explanation of the nature of the state, or the sovereign, and of the relationship between it and the individual. It was out of speculation along these lines that there emerged that characteristic and persistent body of eighteenth-century doctrine which is summed up in the phrases 'natural rights' and 'natural liberty.' Medieval thought passed out of the picture with the rise of the new view that social relations are the outcome of contractual relations between individuals."¹² Following out this development we note that "law and institutions made by man were indirectly from God. There were two distinct systems of rules for mankind: that of the temporal was from man, and that of the spiritual from God. Man must be subject to man, ruler, or government, sometimes Church, sometimes State, but always with authority from God. There could be no questioning of the right of God, and consequently government found its sanction and emphasis in the ruler's right derived from God rather than in consent of the people. In the fourteenth and fifteenth centuries arose the doctrine that by nature—God's nature, it is true—all men are free and equal; and if equal, then God's authority must not operate through any one superior being, but must reside in all the people. For two centuries thereafter the interpretation of nature on the one hand, and the quarrel of creeds on the other, brought about a lessened regard for divine authority. This was followed by an enhanced individualism and democracy, fore-runner of more modern tenets of government. The nineteenth century found one of its main tasks in the attempt to harmonize the two doctrines of authority and sovereignty on the one hand, and of individual freedom on the other. Neither nature nor God seemed directly adequate, so that the influence of Christianity was exerted indirectly through interpretation, reason, righteousness, morality, history, liberty, justice. Finally, the larger concept of society was held to be the arbiter. What sort of society, then, became the question of importance? In the last of the nineteenth century we find abstract theories developed—the inherent power of society as an organism, the natural rights of the individual, the separateness of State and government from religion."¹³

¹² *Contemporary Economic Thought*, "Introductory," pp. 3, 4.

¹³ Howard W. Odum, "Ideals of Government," ch. xix, in *An Outline of Christianity: The Story of Civilization*.

Jurisprudence and Natural Laws. Thus the development of the study of rights and justice and freedom through the varying stages of legal control developed also through the same general methods of approach, as political science. And like political science, law came to study all the controls of man regardless of whether related primarily or solely to the political phase. *Roscoe Pound*, as chief exponent of the modern jurisprudence, has also developed its historical study in such way as to show the evolution of the scientific and social aspects of jurisprudence. He shows a full measure of organic analogy. "After *Darwin*, evolution became the central idea in scientific thought, and biological analogies were uppermost. This change affected jurisprudence somewhat later. The attempts to work out a physical science of the state and of law were followed by a biological science of politics and a biological science of law. To no small extent the two stages overlap. The older mechanical sociology of law merely acquired a biological vocabulary. Three types of this stage may be distinguished. In the mechanical type the ideas are those of the mechanical stage, but the terminology is biological. Jurists of this type used the idea of a struggle for existence as a starting point from which to confirm the doctrines of nineteenth-century metaphysical and historical jurisprudence. They brought us by a new path to the same position to which the historical school and the mechanical sociologists had led us before. As they put it, the end of law is to give play in an orderly and regulated manner to the elimination of the unfit; it is to further natural selection by a well ordered social struggle for existence."¹⁴ In the eighteenth century, he reminds us, there was the law-of-nature school, and later other schools developed the varying aspects of socio-legal-political study of society.

"Jurists of the *law-of-nature* school held that a complete and perfect system of law might be constructed upon principles of natural law to be discovered by reason in the nature of the abstract man. . . . *Historical jurists* consider all social control; they do not confine their conception of law to that part of social control which is achieved through politically organized society. They regard law as something that is not and in the long run cannot be made consciously. They see chiefly the social pressure behind legal precepts, and look behind the sanction of the state

¹⁴ H. E. Barnes, *The History and Prospects of the Social Sciences*, p. 459.

to habits of obedience, displeasure of one's fellow-men, public opinion, and social standards of justice. To them the type of law is custom. . . . *Metaphysical school* gave content to the idea of freedom which historical jurists assumed was realizing in the development of law. Thus they fixed the lines of the political interpretation. . . . Eighteenth-century science of law sought to deduce all things from the nature of the abstract man. Nineteenth-century science of law referred all things to the abstract individual will. At present abstract individualist philosophy of law has been superseded by some form of social philosophy. . . . A movement parallel with the rise of social-philosophical and sociological jurisprudence played a large part in juristic thinking in the generation after 1890 and its echoes are still heard, although it did not give rise to a permanent school of jurists. The historical school looked on materials of legal history as a record of the unfolding and realizing of an idea. In other words, its interpretation of history was idealistic. If the idea was regarded from an ethical standpoint as an idea of right, there was an *ethical interpretation*. If it was regarded from a political standpoint, there was a *political interpretation*. Later positivist ideas gave rise to *ethnological* and *biological interpretations*, which were much in vogue near the end of the nineteenth century. The last phase of these attempts to understand the history of law in terms of a single simple idea was the *economic interpretation*. It began with *Marx* in 1859, but attracted little notice till 1890.¹⁵

Politics and Geography. The history of social study through the politico-juristic approach shows consistently a development of the modern science of politics through the usual range from philosophy to the quantitative method. Analogies in general have been supplemented by special analogies in terms of natural law and essence. These in turn have been followed by others, as for instance those described in terms of human geography and social geography, in which states and governments are studied and explained in terms of time, space, place, and the concurrent evolution resulting. In recent years especially there has been much emphasis upon political geography which might be said to hark back as far as Ratzel.

Floyd N. House has traced well this development of the geography of politics. He quotes *Ratzel* as defining the state as part soil and part humanity, with quantitative measures of size,

¹⁵ *Ibid.*, ch. ix.

ethnic content, form, and boundaries, as well as characteristics and qualities which direct and motivate it. Thus for the research specialist in political science regions and belts and pioneer areas become important "as dynamic or critical elements in the economic and political organization of a larger area."¹⁶ He cites further *Fairgrave's* researches into the Eurasian parallelogram, as a phase of a world political geographic problem. Present-day interest in regionalism has much of its foundations in the problems of administration of government and law, especially the important aspects of inter-state and inter-national relations within the field of social legislation. The Pacific countries as a geographic region have come to denote special problems of research and administration in government and international law. The American South again is a good illustration of human geography in relation to political and social environment.

Democracy and the State. Another special aspect of the politico-juristic approach may be studied in the development of democracies and the ramifications of the State. James Bryce developed two peculiarly timely premises of great importance when he based his studies of democracies upon the hypotheses that political science has its roots in psychology, in that its social constant is human nature, and that politics is an experimental science.¹⁷ Thus the study of political science is essentially a study of social organization and control. For, "as the tendencies of human nature are the permanent basis of study which gives to the subject called Political Science whatever scientific quality it possesses, so the practical value of that science consists in tracing and determining the relation of these tendencies to the institutions which men have created for guiding their life in a community." Political science then attempts to determine what institutions have proved by experience to be the best and therefore it has been an experimental science, and is now being challenged to a much larger experimentation. Nevertheless, "it so happens that at this very moment there are everywhere calls for new departures in politics, the success or failure of which our existing data do not enable us to predict, because the necessary experiments have not yet been tried." In this attempt to add to our data by analysis, he therefore offers studies of a baker's dozen "democracies," which he interprets as a form of government "where the

¹⁶ *The Range of Social Theory*, ch. ii.

¹⁷ *Modern Democracies*, pp. 10-14, *passim*.

will of the whole people prevails in all important matters, even if it has some retarding influences to overcome, or is legally required to act for some purposes in some specially provided manner.”¹⁸ Lord Bryce’s observations lead him to conclude that experiments in democracy justify its adoption as a social institution which promotes progress “towards a steady and harmonious life. . . . helping men to goodwill, self-restraint, intelligent coöperation.”

The limited nature of democracy and the beneficent powers of the state have often been emphasized by *Franklin H. Giddings* in his interpretation of the pluralistic behavior basis of political science. Thus he shows that a fundamental principle of political science is that “the few always dominate” and that “democracy, even the most radical democracy, is only that state of politically organized mankind in which the rule of the few is least arbitrary and most responsible, least drastic and most considerate.”¹⁹ This approximate sovereignty is explained in terms of pluralistic behavior, in which dominance and conformity ultimately merge into some sort of harmony—“the dominant human power, individual or pluralistic, in a politically organized and politically independent population.” Further, the state is more than a mere politico-juristic organization; it is “the mightiest creation of the human mind” and “the noblest expression of human purpose.” But “were it absolute, it would defeat all purpose.” Thus democracy “learns from experience, natural selection goes on in the human race and slowly the race improves.”²⁰ Thus the state becomes an effective approach to social development through its duties of safeguarding the commonwealth, furthering a wholesome civilization, and developing an efficiency, which rejects both mechanical socialism and ineffective individualism.

Public Welfare—Social Politics. Newer aspects of the modern trend in juristic and political research include the larger field of public welfare and social politics, the field of economic and industrial relations, the larger concepts of political behavior and psychology, the technical matters of modern “politics,” and the quantitative methods in the study and appraisal of the political man. The field of social politics and public welfare was long neglected but gradually evolved through the road of experimentation and practice in modern local government and social work. The principles involved include the rights of the maladjusted and

¹⁸ *Ibid.*, p. 22.

¹⁹ *The Responsible State*, pp. 19–20.

²⁰ *Ibid.*, p. 107; also ch. vii, *passim*.

the elimination of social waste so far as possible and the problems of the unequal places in democratic society. Typical of the research problems there developed are those stated by a special committee on research in public welfare in the summer of 1927.²¹

Public Welfare Statistics. A review of the statistical practice of state and local public welfare agencies is highly desirable.

Comparative Study of Public Welfare Functions. This study is designed to show for state, county, town, and city (with special emphasis on state and county units) what public welfare functions are carried on, and what the relationship may be between the various governmental units in the performance of these functions.

Training for Public Welfare Administration. This study should be designed to show something of the existing facilities for training men and women for public welfare work, the character of the training offered, the opportunities in public welfare administration for trained men and women.

Public Welfare Personnel. A study should be made to determine the bases of appointment and tenure of public welfare executives, compensation of public welfare executives and specialists, standards of compensation desirable in official service.

Management of Disaster Relief. A study should be made of existing laws relative to the responsibility of public welfare authorities for disaster relief.

Subsidies in Public Welfare. Inquiries should include: the present practice and results of public subsidy of private welfare agencies, the present situation with respect to the subsidy of government by private agencies for public welfare promotion.

Relation of Public and Private Welfare Agencies. What are the general principles in law of the various states governing the relation of public and private welfare agencies? What should be the responsibility of public welfare departments in supervision of private agencies?

Expenditures for Public Welfare. Some of the questions are: What are the total expenditures for official public welfare work in the various states for those activities generally recognized as falling under the head of public welfare? What is the total expenditure of state governments for public welfare purposes, classified according to major function?

Political Science and Political Economy. Interest and research in public welfare is an example of the very recent developments in the field of government and legislation. A problem illustrating both the older and the new approaches is that of the relation of government and law to economic and industrial relationships—an ever-present problem and relationship but one never quite satis-

²¹ Called by the *Institute for Public Service*.

factorily worked out. Magnifying the relation of government to economic opportunity have been two extreme schools, each holding that peace and security are best conserved by equal opportunity for making a living, but the one holding that the function of government is rather to protect economic opportunity and the other to control and direct it. Government and industry represent two major institutions of society—in the one case they are separate and distinct, in the other they tend to merge. In the original beginnings of economic theory, it was this relation of economic activity to governmental control and protection that first demanded attention. Thus arose political economy; economics thus conceived was nearer the political approach than was the juristic, which also was inseparably connected with matters of sovereignty and control. In the modern development both the science of politics and that of law are having more and more to take into consideration the larger problems of industry and economic opportunity, as well as of corporate relations between composite bodies, such as states and nations. In the modern complex society of today government must have ample researches into problems of income and expenditures, regulation and price, monopolies, tariff, taxation, exchange, and value, together with workmen's compensation laws and other social legislation. Thus much of the political scientist's approach again links up with that of public law. Noteworthy among the recent departures in law are the acquisition by the law schools of Johns Hopkins and Yale of the economists, L. C. Marshall, former dean of the University of Chicago School of Commerce, and Walton Hale Hamilton, formerly head of the Brookings School. The outlook is that the social sciences working together can better make adjustments between the industrial and governmental groups than the religionists and philosophers.

It should not be suggested for a moment, however, that such problems are so simple as to permit of any single technique or approach. *Clyde L. King's* statement of the interdependence of economics and political science leaves much of the scientific problems as yet untouched. He says, "Political science is the science of government. Economics is the science of making a living. There can be no making a living save under the protection of government. And there can be no government unless men can make a living. Futile one without the other. The line

where one begins and the other ends is shadowy and is never at the same place from day to day. What then is the relation of political science to economics? They are as closely intermeshed as law and order and the making of a living; or as security to life, or security to property.”²² Something of the complexity of the situation, as opposed to the simpler interdependent relationship is found in the task set by *Robert L. Hale* who says that “if the learning of the leaders of the bar included training in legal and economic science, it would be less likely than it is now for the ignorant utterances of politicians and bankers and diplomats to pass as enlightened economic statesmanship; and the leaders of the bar might less frequently than at present set an example of ignorance to the layman.”²³

Other New Types of Approach. The newer type of politico-juristic approach is well illustrated in the concept of Dean Pound that politics and law are essential parts of all cultures and in general have the same fundamental bases in control and custom. Robert Lowie has come to the same conclusion from the anthropological approach to the law of the family, of the state, of property, of associations. We have already called attention to the essential needs of political science for psychological inquiry. The study of government is, from this viewpoint, essentially a study of human behavior and culture patterns. Here again in the politico-juristic approach is an outstanding example of the need for coöperative work of the social sciences, anthropology, economics, political science, jurisprudence, sociology in undertaking new researches untrammeled by tradition, yet keeping faithfully within the scientific bounds of specialized effort.

Bronislaw Malinowski has indicated one new type of research, when he points out how “in the study of primitive law we can perceive this sound tendency in the gradual but definite recognition that savagery is not ruled by moods, passions, and accidents, but by tradition and order. Even then there remains something of the old ‘shocker’ interest in the over-emphasis of criminal justice, in the attention devoted to the breaches of the law and their punishment. Law in modern Anthropology is still almost exclusively studied in its singular and sensational manipulations, in cases of bloodcurdling crime, followed by tribal vendetta, in accounts of criminal sorcery with retaliation, of incest, adultery, breach of taboo or murder. In all this, besides the dramatic

²² Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, ch. xiii.

²³ *Ibid.*, ch. xii.

piquancy of the incidents, the anthropologist can, or thinks he can, trace certain unexpected, exotic, astonishing features of primitive law: a transcending solidarity of the kindred group, excluding all sense of self-interest; a legal and economic Communism; a submission to a rigid, undifferentiated tribal law." And again he sets forth some new technique and method. "As a reaction against the method and the principles just stated, I have tried to approach the facts of primitive law in the Trobriands from the other end. I have started with the description of the ordinary, not the singular; of the law obeyed and not the law broken; of the permanent currents and tides in their social life and not its adventitious storms. From the account given, I have been able to conclude that contrary to most established views civil law—or its savage equivalent—is extremely well developed, and that it rules all aspects of social organization. We also found that it is clearly distinguishable, and distinguished by the natives, from the other types of norm, whether morals or manners, rules of art or commands of religion. The rules of their law, far from being rigid, absolute or issued in the Divine Name, are maintained by social forces, understood as rational and necessary, elastic and capable of adjustment."²⁴ *Floyd H. Allport* has made extensive studies into the problem of political behavior as being the key to political science as a natural science. Some of his findings have already been cited. One other example will suffice to indicate the character of this new type of approach. Thus, he points out that "The 'stars and stripes' carried in a parade is a stimulus which causes the average male American spectator to remove his hat. The same flag and procession would probably evoke from an Australian Bushman only the response of staring. For the American it is a political stimulus; for the aborigine it is not. The word political thus applies properly, not to the stimulus, but to the character of the response. We dwell upon this distinction because it is in sharp contrast with the customary view. By many persons, scholars as well as laymen, the 'law,' the 'state,' and the 'nation' have been treated as objectively existing groups or structures which are thought somehow to control and direct the actions of individuals. They are, in other words, conceived as stimuli. To regard them as such, however, in the light of the preceding discussion, is a fallacy. A citizen does not react to the law as a stimulus, nor is he controlled by the law, in any behavioristic sense. He reacts rather to the verbal stimulus (the so-called 'legal code') in such a way that his overt behavior conforms with those verbal specifications. But the words of the legal code are not 'the law' in any institutional sense. If every resident of a city who owned

²⁴ *Crime and Custom in Savage Society*, pp. 72-74.

an automobile were suddenly to adopt the practice of parking his car at any point, in complete disregard of city regulations, the parking law would at that moment cease to exist except as mere phrases printed in municipal records. Apart, therefore, from printed copies of statute books and the tools of enforcement, 'the law' really exists, so far as a scientific view is concerned, only in the attitudes of the individuals who accept it. Their habits of conformity to verbal code constitute the law. Individuals react, therefore, not so much *to* the law, as *with* the law. Similarly, citizens do not react toward the welfare or honor of their nation, but *with* those nationalistic attitudes in terms of which alone the reality of the nation is to be scientifically conceived."²⁵

Continuing Developments. Perhaps there is no better way of indicating the unusual distances travelled from the older analogical and philosophical studies of political and legal relationships than by noting still other trends and tendencies. Charles E. Merriam, one of the original founders of the American Political Science Association, and pioneer in the establishing of the definite politico-juristic approach to modern social problems, has summarized some of the recent steps forward in political science. In recent research he finds a striking advance made in the study of the *modern city*; of *modern political parties*; of vigorous *political theory*, integrated with practical situations; in *international relations*; in *constitutional law*; in *public administration*; in *social legislation*; and in *methodology*, in which "the most striking tendency of method during this period has been toward actual observations of political processes and toward closer analysis of their meaning—this in contrast to a more strictly historical, structural, and legalistic method of approach to the problem of politics."²⁶

Another index of the "future" of political science will be found in the estimates of *Walter J. Shepard* who warns us that we must keep in mind both the past and the actual status and trends of present-day government. Political science in all probability will work forward in these and other lines: the remodeling of representative institutions, the interpretation of the nature of law and its relation to government; the aims and purposes of the state, a clearer civic ideal, a much greater utilization of politics, a better study of human behavior, a more objective methodology,

²⁵ "Notes on Political Definition and Method," *American Political Science Review*, XXI, 613-614.

²⁶ "Progress in Political Research," *American Political Science Review*, XX, 1-3.

and a closer contact between political science and actual government. From these stages of progress there will come, not "a new heaven and a new earth, but they imply progress on that long road which humanity is pursuing and, though the goal may be as distant and obscure as ever, the devoted student can feel an unquestioned confidence in the value of the work he is doing in discovering and clarifying the principles upon which a government must rest if it is to serve the needs of its day and generation."²⁷ Notable also is the progress in jurisprudence as summarized by *Roscoe Pound* in his statements concerning characteristics of recent legal science. He thinks that perhaps the most significant advance has been the change from the analytical to the functional point of view, in which the jurist seeks to explain the social effects of legal institutions in action. His second characteristic is found in the development of a newer sort of theory in relation to law and morals in which the ends in view and the place of law in the whole scheme of social control are predominant. A third modern characteristic is the movement for preventive justice; a fourth is the movement toward individuation through which legislation is sought to guide men away from trouble in complex society; while a fifth important characteristic is the movement for team work with the other social sciences, something of which has already been discussed in this chapter.²⁸

Contribution to Special Problems. In the study of the special problems of war, the family, population, and regional situations, illustrated in this volume, the politico-juristic approach offers much in the way of essential data and method and in the way of illustrating the coöperative attack. Studies of international government and law have increased rapidly and with much more scientific results. Membership by scholars on the international boards and leagues are indicative of a more scientific approach, while the scientific study of war is rapidly coming to replace the sentimental and diplomatic approaches of previous times. In the study of the family, law and legislation assume increasingly important rôles alongside the problems of economic science and sociology. In the approach to population problems, in addition to many technical researches into immigration and distribution, there are the larger problems of colonization. Floyd N. House calls attention to the correlated study of population and government. "The special form of population movement which we call colonization

²⁷ H. E. Barnes, *History and Prospects of the Social Sciences*, ch. viii.

²⁸ *Ibid.*, ch. ix.

has been exploited as a deliberative governmental policy by countries seeking to relieve the pressure of excess population or to increase the national wealth. It is this interest in the phenomenon of colonization which has inspired a number of research studies of the history of colonization, the best-known being those of Beers and Keller. Miss Semple has described colonization as a device used to promote commercial ends. Recent writers have pointed out, however, that even where migration does not take the massed form, the natural movement leads them to settle in colonies for mutual aid and comfort. Colonization is therefore being studied as a natural phase of population movement, as well as a political expedient.”²⁹ And in the study of regional problems, especially those selected for illustration in the southern region of the United States, there is perhaps need and opportunity for effective research nowhere more than in the field of law and government. Studies of justice in the courts, the reorganization of state and county government, and the ever-engaging problem of political leadership await the newer approaches and methods for successful realization.

²⁹ *The Range of Social Theory*, chs. iii, iv.

CHAPTER XII

TYPES OF APPROACH: THE ECONOMIC

The Politico-Economic. The economic approach to the study of society illustrates unusually well the specialized beginnings of a social science, following certain logical and traditional influences of philosophy and the physical sciences, developing into broader application and social speculations and back again into specialized techniques, and into more interrelationships with other social sciences. From early beginnings in the study of concrete political problems, economics has developed into a study of man as influenced by his work and wealth, and on then to the extremely technical aspects of a science of considerable authenticity. It is important, however, not to confuse the general economic approach with the complete outlines of economic science. It is the former which we wish to characterize here. This economic approach in modern learning began with special application to those aspects of business life which had to do with the state. Thus political economy, its first name, "was primarily concerned with the regulation of trade, finance, taxation, and ways of promoting agriculture and industry, regarded from the standpoint of national security and progress."¹ And it is interesting to note how from its extreme range through *control* to *laissez faire* the modern economic approach comes back to this relation between government and economic opportunity, but from a much more complex and varied background. We have already in the preceding chapter called attention to some of the interrelations between the economic and the politico-juristic approach. In spite of their separate techniques and independent specialisms, however, Charles E. Merriam suggests that "in reality, politics and economics have never been separated, or at least not divorced. There is rarely, if ever, a political movement without an economic interest involved; or an economic system in the maintenance of which the

¹ J. A. Hobson in ch. x, Ogburn and Goldenweiser's *The Social Sciences and Their Interrelations*.

political order is not a vital factor. There was a strong flavor of tea and taxation in our revolutionary bill of rights, and there is a definite relation between investments and political order today. The oft-repeated fallacy that democracy was once concerned only with political forms, neglects the factors of land and taxation in early democratic struggles, corresponding somewhat to the industrial factor in our own day.”² Many other students, noting this similar relationship between economic interest and all aspects of individual life and social organization have come to interpret the economic approach as the most fundamental of all, developing various theories of economic and geographic determinism.

The Economic, a Comprehensive and Advanced Approach. Such types of economic inquiry, however, represent only a part of the sort of scientific approach studied in these chapters on the several social sciences and their approaches. In the analogies of determinism and others may be found many simple and complex fallacies as well as much that is unscientific in method and conclusion, such as abound in most of the approaches. Just as in the general analogy, similarity must be distinguished from identity, so in economic determinism supplementary factors must not be confused with the exclusive whole, or illustration and incidence with exclusive force, cause, and product. The economic approach to the study of society in which we are now interested is a more scientific and more comprehensive one in that it is a study which finds its basis in those phases of social relations which attempt to understand the economic factors of society and to explain the non-economic in terms of or in relation to the economic. In some respects, therefore, the economic approach may be seen as of a twofold nature: The one with human beings, human organizations, human behavior as the subject matter, and the other with objective facts of physical environment and of relationship such as go to make a “natural” science, statistically or mathematically worked out. The economic field and objective may be interpreted in relatively general terms, as man’s effort to understand and master his physical environment, in less general terms of human behavior in relation to work and wealth, or in the specialized techniques of economic science which attempt to work out laws for fixing economic values and for controlling and distributing

² “Progress in Political Research,” *The American Political Science Review*, XX, 8.

income, together with all the human implications of such a science. The economic approach, like the anthropological, is in some respects distinctive, in that it deals with the earth and physical environment as well as the human factors. In either case, it has been one of the major approaches to social study and has contributed much to classical and historical social theory. It is on the one hand closely related to political science through the former stage of political economy, and on the other hand to history, sociology, and psychology through its attempts to explain the development, organization, and behavior of human society. In so far as its problem is the mastery of man's physical environment, it is also closely related to geography and the physical sciences, while its hedonistic background and evolutionary development give it close alignment with social ethics, biology, and anthropology. Some of its approaches to the complete study of society include its economic interpretation of history, its fundamental relation to survival and culture, its social telesis, and its psychological and institutional phases. The modern economic approach thus approximates a complete study of society in some respects, but in a far different way from the simple formula of economic determinism, and it utilizes more and more data and coöperation from the other social sciences. According to Alfred Marshall, therefore, it is a part of the study of man, because his life has been influenced more by his work and material resources than anything else unless by religion.³

Because of the growing complexity of the modern social-economic world and the increasing interest in social science, *Paul T. Homan*, among others, thinks that "economists in increasing numbers and with improving technique are amassing data which permit the light to play upon the detailed processes of our social organization."⁴ Its problems and its methods are, therefore, not infrequently likened to the problems and methods of all social science.⁵ Perhaps it is generally recognized that in the field of practical economics scientific research has proceeded further than in any of the other social sciences. Thus *Alfred Marshall* estimates that economics deals with that part of man's

³ *Principles of Economics*, p. 1.

⁴ *Contemporary Economic Thought*, p. 467.

⁵ See Allyn Young's "Economics as a Field of Research," *Quarterly Journal of Economics*, XLII, 1-25.

action which is "most under the control of measurable motives."⁶ This recognition is accorded by *G. E. G. Catlin* when he refers to the "brilliant and sudden development" of economics as an example for political science."⁷ *Floyd N. House*, representing an objective view of the sociologists, goes so far as to say that "Most of the important contributions to our present knowledge and theory of the forces and process underlying changes in the organization of social control have, however, been made by students of economic history or 'historical economics,' and, naturally, the historical development which has loomed larger than any other in their eyes is that by which large-scale, standardized, power-machine types of production have replaced the handicrafts of a previous era. From the point of view which the economic historians have helped to define, the political and psychological aspects of contemporary social life may be studied as results of the impact of the factory system upon mediæval culture and politics. The value of this approach to the matter seems to have been considerable, even if it is based upon an inaccurate assumption. In recent years a number of writers, among them *Graham Wallas* and *Charles A. Ellwood*, have criticized severely the theory of 'economic determinism,' . . . and have contended for a more psychological interpretation of human social change, holding in substance that industrial changes are no more cause than they are effect of changes in other aspects of the common life of a people."⁸

The Economic Approach to Social Problems and Social Welfare. Another illustration of the very broad scope of the economic approach to the study of society is found in its telic and "practical" objectives as measured by its relation to social problems and to social welfare in general. This does not mean that the economic approach has "solved" these problems of human welfare; rather it illustrates how it has attempted to do so and what its limitations have been, some of which are detailed in the next section of this chapter. Nevertheless, an understanding of such a fundamental approach is indispensable in order to interpret the present significance and method of economics, the essential need for its further development, and its interrelation with the other approaches. One group of by-products is that of various economic theories of reform. Industrial democracy as an experimental concept and as a part of the modern gesture toward economic and

⁶ *Principles of Economics*, p. 389.

⁷ *The Science and Method of Politics*, p. 207.

⁸ *The Range of Social Theory*, ch. xxiv.

social adjustment represents an integral effort of far-reaching possibilities. If, however, industrial democracy is assumed to be the total of all democratic processes and organization, then it becomes another analogy upon which is placed too much dependence. This much seems to have been demonstrated through experiment and observation. So also may be interpreted many other theories of economic reform which emphasize the elements of social welfare. The single tax and other plans of land distribution and reform are notable examples of the possibilities for really scientific study of concrete aspects of a problem rather than general assumptions of exclusive cause. Their advocates have often been propagandists more than economists. Other examples include those involving various extreme concepts and treatment of capital, labor, wages, prices, values, poverty. Sovietism is an important recent development which embodies a great many fundamental principles underlying the social readjustment in an era of conflict between machine and industrial development and western agricultural development or eastern non-machine ideals. And socialism with its many aspects, although not a fundamental part of the economic approach, may be utilized to illustrate perhaps the most distinctive of all the social-economic approaches. Whether it be the Marxian scientific socialism, the Fabian brand, state socialism, various forms of Christian socialism, or the modifications as found in certain aspects of anarchism, I. W. W., Syndicalism and radical labor movements, or guild socialism, the general problem of economic interpretation is a keynote and this will be discussed in the next section.

In the meantime it is important to note that early economists and the classicists themselves were much interested in human welfare. Their viewpoint, however, was that the economic approach was one, perhaps often, the most important part of the social problem, but not all of it. *Alfred Marshall* estimates that modern economics began with the "aim of seeking after such knowledge as may help to raise the quality of human life."⁹ And again, "The fact is that nearly all the founders of modern economics were men of gentle and sympathetic temper, touched with the enthusiasm of humanity. They cared little for wealth themselves; they cared much for its wide diffusion among the masses of the people."¹⁰ And still again "economics is thus taken to

⁹ *Principles of Economics*, 4th ed., p. 56.

¹⁰ *Principles of Economics*, 8th ed., p. 47.

mean a study of the economic aspects and conditions of man's political, social and private life; but more especially of his social life. The aims of the study are to gain knowledge for its own sake, and to obtain guidance in the practical conduct of life, and especially of social life."¹¹ And *Wesley C. Mitchell* and the institutional economists with all of their objectivity are generally estimated to center their aims toward studies which arise from problems. As *Paul T. Homan* puts it, "wherever the operation of our economic institutions appears to raise some human problem, they will be found . . . they are guided in their choice of subjects for investigation by the desire to be of assistance in an intelligent scheme of social reform."¹² And *Thorstein Veblen*, perhaps tending between the two extremes, sees the basis of human welfare in maximum production and becomes, to some extent, the economist tending to make this a basic index for institutional behavior. But he has kept close to the genetic and evolutionary viewpoints and has sought objectivity in the promotion of scientific study, thus making his "economic interpretation" both *economic* and *interpretative*, which the usual economic and geographic determinism is not, according to *Catlin*.¹³

Economic Interpretation. This problem of scientific, economic interpretation is one of the most difficult, of course, which the social scientist must face. Evidence of this is found in abundance in the history of economic thought and in the development and complexity of modern culture and institutional life. The variety and contrasts of explanation of economic and social phenomena, both in their technical details and in their social relationships, bear eloquent testimony to the struggle to find correct solutions. From primitive economic practice, through the long road of ancient and classical theory, through the ethical and socialistic concepts, down to the present statistical, psychological, and institutional modes, there is rich material for the social scientist. We have already indicated some of the interrelations with other social sciences and noted how the modern economic approach must utilize the coöperative program. We have noted how important the newer trend toward the explanation of much in society through the cultural factors is in indicating complexity where formerly simplicity was assumed. Perhaps nothing better may be used to illustrate this complexity than the "economic interpretation of history," or "economic

¹¹ *Ibid.*, p. 42.

¹² *Contemporary Economic Thought*, p. 414.

¹³ *The Science and Method of Politics*, p. 150.

determinism," or materialistic determinism affected by industrial change with its contrasts and ramifications into theory and practical institutions. It is an interesting anomaly that the socialism which has often culminated in the economic interpretation, or materialistic emphasis upon history, started in the non-economic emphasis upon the human factor and upon the idealism which looked to the happiness of the individual worker.

To begin with, however, the backgrounds of economic interpretation were much more elemental. Such social theorists as *W. G. Sumner* and *A. G. Keller* explain the whole of society primarily in terms of man and land ratios, and find in religion, magic, reproduction and the family, as well as various other aspects of culture, the ever-prevailing economic background.¹⁴ *N. S. B. Gras* notes the beginnings of this particular philosophy of history as portrayed by certain anthropologists who make economic activity the foundations of their science. He calls attention to the paradox of their committing themselves to the theory of economic determinism and then of committing "the scarlet sin of jumbling up the cultures of the hunter and agriculturist, the planting and the pasturing nomad." His further analysis of this theory is pertinent to the understanding of the whole economic approach. "Although Adam Smith lived long before Karl Marx, the formulator of the economic interpretation of history, nevertheless he sought to show that military strength has depended upon the economic stage which a people had reached. And, with less success, he maintained that the cost of justice has increased as man has progressed from one economic stage to another. In all this he followed the traditional sequence—hunters, shepherds, and husbandmen. Some modern economists have accepted the economic substructure as the foundation of modern culture. The economist, Richard Hildebrand, made an interesting and valuable attempt at the economic interpretation of various primitive institutions. Among social anthropologists (and sociologists working in the field of anthropology) we find many examples of scholars using the economic interpretation, for instance, *Hobhouse*, *Wheeler*, and *Ginsberg*, also *Grosse* in his work on the beginnings of art and the development of the family, and *Nieboer* in his study of the growth of slavery. On the other hand, many anthropologists (and psychologists and sociologists in the field of anthropology) have been interested in economic phenomena either very slightly or just as one of the phases of primitive existence. *Durkheim*, *Wundt*, and *Freud* attach little cultural importance to early production. The ethnologist, *Hahn*,

¹⁴ *The Science of Society*, I, i–iii; see also Vols. II–IV.

ascribes the domestication of animals to religious purposes. Giddings makes fun of an economic interpretation of history. He accepts the discarded stages of hunting, pasturing, and agriculture as accurate enough, but denies their value. Of course, the answer to this is that economic stages in themselves are not intended as an interpretation. They merely provide, in this connection, the background of general cultural data.”¹⁵ And John Dewey gives a similar critical estimate showing other complex features. He says that “while at various times the effect of modes of industry and commerce upon conduct has been very great, there is no justification for an *a priori* assumption of economic determinism. As a rule, its importance in early groups is relatively slight, once the demand for necessities has been met. The rise and wane of economic forces in influence is a topic for specific historic study and analysis, the same as that of any other factor. The institution of slavery, for example, has had an undoubted importance for ethics, and the origin of slavery is chiefly economic, since prior to settled agrarian life a slave was more of a liability than an asset. But military conquest, sentiments of honor and superiority, and sexual motives have also played a part in originating human slavery, and the institution once established is persisted in on other than economic grounds, after, indeed, it has become demonstrably an uneconomic device. In general, a purely economic explanation of any primitive social institution, as marriage or myths, is to be regarded with suspicion.”¹⁶

Types of Analogy. Like most of the other approaches, the economic has had its large share of analogy and comparison. Among the notable figures have been those of the “economic man” and “normal” life, both of which represented abstractions of life for all of it. Another confusion was that of the ethical principle of conformity to nature with that of causal law of action. We have already referred to the analogical limitations of many of the economic theories of reform, and to other aspects of mechanical analogy. There are in these historical aspects, here as elsewhere, important illustrations of the development of economic approach from the analogical and philosophical to the objective and realistic. The earlier efforts of economic thought which sought scientific validity through physical analogy were similar to much of the biological and evolutionary terminology. Con-

¹⁵ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, pp. 19-20.

¹⁶ *Ibid.*, p. 32.

cretely, for instance, the important phenomena of the division of labor was discussed as organic analogy by no less distinguished scholars than Spencer, Lilienfeld, deGreef, Worms, Comte, Tönnies. And even Alfred Marshall uses the vertebrate organism as analogous to the economic "and the science which deals with it should not be invertebrate,"¹⁷ while Thorstein Veblen magnifies the biological method, post Darwinian analogy.¹⁸

Quesnay and his physiocratic disciples, were the first "to grasp the conception of a unified science of society."¹⁹ Social relations are not haphazard occurrences but are linked together "in the bonds of inevitable laws, which individuals and governments would obey if they were ever made to know them." Other Physiocrats, especially *Mercier de la Riviere* and *Dupont de Nemours*, held that as organic life is controlled by definite physical laws, so also man in society is subject to natural laws.²⁰ The "natural order" is an ideal state of divine origin and universal in scope, based upon property and authority, while the civilized state is an artificial creation in which all social classes are not only interdependent, but all are finally dependent on nature. Therefore, that social order is best which is so directed as to work toward this natural state. And *Charles Fourier* held that association is due to an ever-present force which draws men together like the law of gravity in the physical world.²¹ And again in his *Theory of Universal Unity*, he held that the earth will pass through life cycles similar to the life cycles of the human individual. Its present infancy will be succeeded by a millennium of seventy thousand years, due to the perfect and unimpeded operation of the "power of attraction." An age of decline will follow this, while the fourth and last stage will be a brief era of dotage.²² Another example is *Vilfredo Pareto's* theory that pure science is "rational mechanics." Pure political economy, therefore, becomes a mathematical science. He begins with man as a "hedonistic molecule" in which the economic factor is the primary force. But an analysis of the molecule into its component parts demonstrates its complexity and the presence of many other forces. Each factor must be studied separately and then all the factors recombined to form a synthetic concept of a real

¹⁷ *Principles of Economics*, 8th ed., p. 769.

¹⁸ *The Place of Science in Modern Civilization*, pp. 16 seq.

¹⁹ C. Gide and C. Rist, *A History of Economic Doctrines*, ch. i.

²⁰ Gide and Rist, *A History of Economic Doctrines*, ch. i; L. H. Haney, *History of Economic Thought*, ch. ix.

²¹ H. W. Laidler, *A History of Socialist Thought*, ch. viii; Haney, *History of Economic Thought*, ch. xxi.

²² Laidler, *A History of Socialist Thought*, ch. viii.

society or sociology.²³ Although *Paul Homan* thinks that perhaps one need not bother with any extended historical account of the organic analogy; it still has significance. "Its medieval and eighteenth-century manifestations have a historical interest, but this view of society has its present importance mainly in its association with the evolutionary doctrine. The importance of this doctrine in revolutionizing the intellectual apprehension of all social phenomena can hardly be exaggerated. Just as, a hundred years ago, economists handled their facts with the aid of a philosophical and scientific position which was currently acceptable, so are present economists forced to do."²⁴

The Philosophical Background of the Economic Approach.

The economic approach like that of the other older social sciences was often grounded in the philosophical method. We have noted the backgrounds of social speculation in the social sciences, and their backgrounds in various forms of rationalism, individualism, utilitarianism, pragmatism, and the steady development through an evolutionary philosophy to scientific method. We have called attention to the combined interest of political scientists and economists and to the broad interests, reach, and scholarship held by many of the social scientists and physical scientists of the seventeenth and eighteenth centuries. Thus both political science and economics were developed from and as a part of, social and moral philosophy. Such philosophers as Hobbes, Locke, Rousseau, Hume, Malebranche, Descartes, and others were important forerunners of the early economic approach. It is even more interesting to note that Adam Smith, himself progenitor of the classical economists, considered his *Wealth of Nations* as a part of a comprehensive philosophy. J. S. Mill's theories were shot through with the philosophy of coöperative enterprise. Nor was the philosophical factor absent in John Bates Clark's *Philosophy of Wealth* or theories of harmonies.

The physiocrats themselves showed a persistent sort of philosophical background that might well be ascribed to their Stoic forbears. *Lewis H. Haney* emphasizes a dual type of philosophy which entered into the struggle of the early economic approach.²⁵ He calls attention to six pairs of contrasts. These contrasts in general are between *materialism* and *idealism*; *rationalism* and

²³ Pitirim Sorokin, *Contemporary Sociological Theories*, ch. i.

²⁴ "Issues in Economic Theory," *Quarterly Journal of Economics*, XLII, 333-365.

²⁵ *History of Economic Thought*, p. 185.

religious teleology; hedonism and reason. Three other conflicts tended to contrast *individualism* and *monarchical government; laissez-faire* and *protection to agriculture*; and the principle that wealth is *all-important* and *well-being is not wealth*. Perhaps these conflicts lay at the basis of the physiocratic philosophy as well as constituting the background for much that was to follow. *Paul T. Homan* calls attention to the development from this viewpoint through the quest for realism to a modern ideology.²⁶ "This concern for realistic data, while it has been a factor in limiting the acceptability of economic doctrines, has perhaps had less effect in actively reshaping economic theory than a new ideology which has found its way into economics from such varied sources as philosophy, psychology, and natural science. It is an ideology which is affecting all the social sciences alike, drawing them together, and obscuring their characteristic frontiers. History is becoming more a 'genetic' account of the development of human societies. Anthropology is less a system of classifying races through skull measurements and more a study of the functional content of primitive cultures. The law is becoming less a body of principles and more a heterogeneous expression of bygone sanctions of conduct, as modified in the light of a new and changing social situation. Political science is turning from philosophical theories of the state to the comparative study of political institutions. And so in economics, the search for sweeping generalizations is being subordinated to finding by what chain of circumstances our present institutions came into being, how they at present work in detail, whether they are carrying us, and by what means and to what ends we can direct their future development." And in another discussion of economic issues *Homan* insists that the current tendency toward purposive social processes is a philosophy of social control. "There may possibly be no better social philosophy. But I should like to insist that it is a philosophy quite as much as 'the system of natural liberty.' . . . Plainly the philosophy posits a high capacity for rational human action, and comes at that point in conflict with a contrary tendency to minimize the rationality of mankind."²⁷

Economic "Theory." Thus has developed a remarkable story of changing economic "theory," sometimes appearing almost as diversified as the schools and individual theorists. Something of the magnitude of the theoretical side of the economic approach may be seen from the fact that in a single attempt to review the history of economic thought more than five hundred individuals

²⁶ *Contemporary Economic Thought*, pp. 459-460.

²⁷ "Issues in Economic Theory," *Quarterly Journal of Economics*, XLII, 333-365.

will be listed.²⁸ From the same review the complexity of the situation is evident when one attempts to trace beginnings, and find consistency in contradictory concepts which may, however, have started from the same point of view; evolutionism and mechanics, capitalism and socialism, psychological and statistical modes, theoretical and "practical" studies. The classical economists represented a major stage of economic approach, primarily non-historical and unrelated to genetic culture and evolution, flowering in very definite products in the industrial era, and yet retaining permanently aspects of valuable theory based upon illustration rather than fundamental forces and processes. And again the early classicists did not stop merely with the effecting of certain theories limited to England and her provincial problems, but soon spread abroad to the continent and later extended to such classicists and noted economists as Böhm-Bawerk in the Austrian and John Bates Clark in the American group. From this point the transfer is easily made into the hedonistic and special psychological approaches, which are again challenged by the representations of the institutionalists and quantitative approach.

This story of economic "theory," as already indicated in this general approach, constitutes one of the most fascinating of all the social sciences. Gradual development and easy transition from one viewpoint or philosophy to another marked the range from specific problems to social theory. From the *laissez-faire* of the physiocrats it was easy to develop an almost opposite meaning; from government control and direction it was easy to develop the theory of complete non-interference; from which easily came state socialism. Likewise "sentimental" socialists and "scientific" socialists developed side by side in time and method. The history of the economic approach can be epitomized at almost any point or time by cross sectioning its progress. Thus the Physiocrats with *Quesnay* leading off started with the concepts of liberty as natural law and restriction as artificial, and developed an approach to the economic problems of the state in their time, from which developed the beginnings of modern economics seeking knowledge about economic factors in human life. *Adam Smith*, well grounded in the philosophy and economic knowledge of his time, followed with the founding of modern economics with the beginning epoch in "scientific inquiry into the manner in which value measures human mo-

²⁸ Cf. Haney, *History of Economic Thought*; Gide and Rist, *A History of Economic Doctrines*.

tives.”²⁹ His analysis of chief factors as the desire to obtain or possess wealth and its cost or sacrifice of producers easily set the stage for the modern economic approach with many of the philosophical and methodological aspects already mentioned. Thence numerous historical and descriptive studies followed such as *Eden's* study of the poor, *Malthus'* studies of population, *Bentham's* and *Ricardo's* studies of money and trade, *Mill's* emphasis upon the human factor in political economy. The German nationalistic emphasis was an easy development into utilitarian and pragmatic applications, while various American studies of wealth, labor, population, birth control, standards of living, the family, wages, business cycles, and many others each and all led directly from special inquiry into more or less definite “theorizings.” *Gide* and *Rist* and *Haney* give an interpretative bent to these telic developments when they classify *Malthus* with his population theories and *Ricardo* with his distribution theories as belonging to the pessimistic school. Nevertheless, *Malthus'* thesis that population tends constantly to increase beyond the means of subsistence,³⁰ set a new pace for methodology in social economics. Therefore, if population is not checked by voluntary restraint, such as late marriage, etc., it must of necessity be limited by such positive checks as famine, poverty, wars, and infanticide. Thus economic research easily integrated into social theory. Thus later classicists, such as *Clark* and *Böhm-Bawerk* excelled in “theory,” tending toward the hedonistic explanation of conduct and the ethical appraisal of economic processes. These theories have lately been thrown against the background of modern psychology and ethics, which challenge their foundations for an economic science. Nevertheless, as an example, *Böhm-Bawerk's* hedonistic doctrine developed great possibilities.³¹ Maximum well-being is the aim of society and this is attained, according to the pleasure-pain theory, when the greatest number have more pleasure than pain, for pleasure is the great object of desire. Therefore, all volitional acts, and these are the predominant ones, have “happiness as their goal.” The socialist trend, as already discussed, was a natural follower of much of the industrial products of the classical theorists, while the later historical group, evolutionists, hedonists, and psychological schools usher in gradually the modern scene.

Current Tendencies. Like the other social sciences economics in the current era finds little unanimity among its present-day

²⁹ Cf. Alfred Marshall, *Principles of Economics*, 4th ed., pp. 56, 57.

³⁰ Haney, *History of Economic Thought*, ch. xi; Gide and Rist, *History of Economic Doctrines*, ch. iii; Marshall, *Principles of Economics*, ch. iv.

³¹ Haney, *History of Economic Thought*, ch. xxx.

economists, although Homan thinks that "however much subsequent generations have pared away from them or added to their early heritage, one may discern an unbroken line of descent which includes all those who have to some considerable degree remained loyal to the early nineteenth-century idea of scope and method of economic science."³² He thinks that perhaps the basic aims of more recent economic theory include the efforts to release itself from the old ethical implications, to resign from the position of author of political precepts of policy, to elucidate the operation of those fundamental forces which in a free-exchange society regulate values, and therefore the production, distribution, and consumption of wealth. Modern scientific and objective research grow out of the increasing factual data which come from this effort to understand the economic world. Perhaps the prevailing trends of the current era may be characterized by a threefold development, typified by Wesley C. Mitchell. This development seems to include an increasing emphasis upon the quantitative study of economic data, upon the psychological and institutional factors of society, and upon the closer interrelation between economics and the other social sciences. We have already referred to his appeal for coöperative study of social problems and to his emphasis upon the psychological factors. Worth Bigelow's interpretation of the new movement is that "the institutionalists seek to develop a new type of economic theory through the quantitative, inductive investigation of the evolution and operation of economic institutions. For to them economics is economic behavior, and economic behavior is to be comprehended, not in terms of relatively changeless instincts or 'propensities,' but rather as the result of relatively plastic social habits."³³ In this concept it is easily seen that the institutionalists will naturally call upon the psychologists, the anthropologists, the sociologists, the historians, to help them come to an understanding of economic society, and of all society.

In his presidential address before the American Economic Association in 1925 Professor Mitchell struck a keynote acclaimed by not only the economists, but by other social scientists as well. Among many other things, he said: "This conception, that eco-

³² *Contemporary Economic Thought*, pp. 6, 7.

³³ Interpreting from Wesley C. Mitchell's "Human Behavior and Economics," *Quarterly Journal of Economics*, XXIX, 1-47, and quoted from H. E. Barnes, *History and Prospects of the Social Sciences*, p. 392.

nomics is one among a number of sciences all dealing with aspects of human behavior, need be no monopoly of the quantitative workers. But it will be especially congenial to their way of thinking. And it will put them in a better position than ever before to co-operate with quantitative analysts in other fields. What Jeremy Bentham's idea that all our actions are determined by pleasure and pain once did to provide a common program for jurists, economists, psychologists, penologists, and educators, may be done again by the idea that all these groups together with the political scientists, sociologists, anthropologists, and historians, are engaged in the study of human behavior. On that basis the problems of each of these groups are significant for all the others, their technical methods are suggestive, their results pertinent.”³⁴ To quote *Paul Homan* again, “The future province of economics is to be determined by a sifting-out process, and any progress can come only by the elimination of the prevailing dogmatisms, through a process of discriminating thinking. Such a process will, of course, entail sacrifices. Economists who find peculiar virtues in behaviorism might find that, with the bloom of novelty rubbed off, its practical helpfulness was somewhat mitigated. Those who emphasize the instinctive basis of human action might rediscover the rational qualities of the human mind. Those who emphasize the organic character of human society might be led to comprehend those problems where a quasi-mechanistic view is the principal path to knowledge. The advocates of social control might appreciate that individualism is itself a philosophy of social control, and that their practical problems are mainly limitations upon this established principle. Those who emphasize the importance of detailed institutional studies as the path to understanding, as well as controlling, economic processes, might discover that they do and must give coherence to the whole by reasoning about it, and by assuming that others reason. Orthodox economists in general now see their discipline mainly as a set of tools for examining concrete facts, their wider generalizations being only convenient aids to the understanding of the forces at work; while institutional theory strikes them as a vague sociological concept. Institutionalists in general see orthodox economics as a tissue of unverifiable generalizations based on probably incorrect premises; while their own general ideas, which they consider to embody the most approved current views of psychology and social theory, form merely the background for specialized investigation, through which alone real enlightenment is possible.”³⁵

³⁴ Wesley C. Mitchell, “Quantitative Analysis in Economic Theory,” *American Economic Review*, XV, pp. 5-6.

³⁵ “Issues in Economic Theory,” *Quarterly Journal of Economics*, XLII, 333-365.

Research Problems. In no field of social research has the utilization of the quantitative method advanced so far or accomplished such definite results as in economics. This is partly due to the objective nature of much of the data of business, to the "practical" value of research in industry and business, and to the wide range of opportunity and various other reasons. The field, however, is an almost unlimited one and like the theoretical approach tends to divide into the two larger classes of technical projects and general social research. Allyn Young in his review of economics as a field of research thinks that the statistical field has been neglected as it relates to census materials, demography, and administrative problems. Likewise there is great need of historical study and of exhaustive local and regional studies. "The difficulty," he says, "is not that problems are scarce, but that they press in upon us in such abundance and variety that selection is difficult."³⁶ Typical of the current economic problems calling for the sort of approach implied in the modern era are those selected by the National Bureau of Economic Research, an organization for impartial investigation whose purpose "is to find facts divested of propaganda."

One of its first lists of researches, intended "to throw much new light upon the nation's pressing, economic, social and industrial problems" consisted of a dozen major problems: *Transportation in the United States*—A study of its economic development and present status; *America's Spendings*—An analysis of the national bill for consumption goods; *America's Savings*—The various ways in which the national wealth is increased; *The Middle Man*—An estimate of the proportion of the national income derived from mercantile pursuits; *Wages and Salaries*—A systematic separation of these items carried through all industries; *Fluctuating Wealth*—An estimate of the income or losses resulting from changes in the value of property owned by the American people between the beginning and end of each year; *The American Farmer*—His position and prospects; *Migration and the Business Cycle*—Economic aspects of mass movements of population in industry; *Trade Unions in the Business Cycle*—A study of their variation in membership; *The Labor Factor in the Business Cycle*—A far-reaching series of studies designed to embrace variations in (1) rates of wages, (2) cost of labor, (3) purchasing power of wage earners, (4) real wages; *Interest Rates in the Business Cycle*—An analysis of monthly variations, carried back to 1859; *In-*

³⁶ "Economics as a Field of Research," *Quarterly Journal of Economics*, XLII,

ternational Business Survey—A systematic compilation of statistical data exhibiting the manifold phases of business fluctuations in the leading commercial countries; *Business Cycle Handbook*—An analytic description of the business cycle in such form as to be useful to the general public.

Special Selected Problems. In the special list of problems selected for type illustration in this volume, the economic approach is fundamental. In the study of population the whole range of economic applications apply, from the reviving and revising of the Malthusian doctrines, to theories of immigration, economic competition, division of labor, standards of living. In the study of the family the economic aspects have lately assumed increasingly larger economic proportions, including not only standards and home economics, but the problems of women in industry and business and the single and double standard of pay for work. In the problem of industry the whole wide range is encompassed by the economic technique in all its variety and skill so that the entire list of technical problems listed and implied must draw upon the economic approach for any sort of successful solution. Allyn A. Young thought that the problems of local research and regional problems offer one of the distinctive opportunities for research. "I do not see," he writes, "why the economic history of some town or village should not be written in such a way that would make it a contribution of first importance to our understanding of the development of the economic life of the United States.³⁷

With reference to the war and its problems he writes: "The war and the problems it bequeathed to the world have done more than anything else to determine the present central interest of economists. Problems in the fields of money and banking, of public finance, and of international trade have come into fresh prominence, as has commonly happened after long wars. Our wartime experience with government control of production and trade has helped to turn the attention of economists toward such questions as the future adequacy of the world's food supply, the distribution and control of supplies of raw materials, and the possibility of reducing wastes by introducing a larger element of conscious planning into the economic life of organized society. There is a new interest, also, in the nature of the national economic rivalries that make for war, and in ways of getting rid of them or controlling them."

³⁷ *Loc. cit.*

CHAPTER XIII

TYPES OF APPROACH: THE SOCIOLOGICAL

The complex and varied sociological approach to the study of society may be introduced to good effect by comparing it with other types of approach. That is, assuming society, social problems, social phenomena, as the field and subject matter of social study, how does the sociological approach differ from the politico-juristic, the economic, the anthropological, the psychological, the statistical, and the historical? In this new and enlarged emphasis upon the social sciences and upon social research, how important is the sociological approach to the tendency toward synthesis and scientific method? Or if not the sociological approach, what in its place can contribute to the rounding out and coördinating of social study and the science of society? To what extent is the sociological approach exclusively distinctive? To what extent is it closely related to others; does it overlap, and is it likely that other approaches might suffice? What is the point of emphasis when Floyd H. Allport, for instance, proposes to set us a study of "the groups, both primary and derivative, and the associations and institutions in a given community? One portion of the study will be made from a *psychological* standpoint and the other portion from the viewpoint of sociology?"¹ Or what is the point of difference when Robert S. Lynd and Helen Merrill Lynd make a study of a community in what Clark Wissler calls "a pioneer attempt to deal with a sample American community after the manner of social anthropology"?² Is it a matter of separate techniques and methods exclusively applied or is it an emphasis upon coöperative effort? If coöperative effort, again, what are the differences of approach in the several techniques and method, when studying the same field and phenomena?

The Sociological Compared with Other Approaches. The phenomenon of human behavior is readily seen to be a problem of

¹ Preliminary statement of plan in letters.

² *Middletown: A Study in Contemporary American Culture.*

psychology, of anthropology, of political science, of social ethics, as well as of sociology. Both psychology and sociology assume behavior patterns. If we compare the two approaches, according to L. L. Bernard, we find that "psychology studies the inner or organismic patterns. Sociology studies the external or collective behavior patterns, the organization and behavior of men in groups. Psychology measures psycho-physical phenomena. Sociology measures social or collective phenomena, communication, environmental pressures, and multiple response."³ These both study the essential objective of "an adjustment which is for man essentially collective as well as individual."⁴ Then compare the sociological and politico-juristic approach to the study of human behavior, which Allport thinks is the chief objective of political science. Stuart A. Rice compares sociology and political approaches by noting that "the phenomena of politics are functions of group life. The study of groups *per se* is a task of sociology."⁵ Roscoe Pound and Harry Elmer Barnes show how jurisprudence and political science study the place of law and politics in social control, whereas sociology studies the whole process and all the other elements in social control as well.⁶ Political science and jurisprudence study the development and mechanisms of state and law, while sociology studies the evolution of the whole social organizations which are already assumed to be in existence by the politico-juristic approach. Charles E. Merriam, looking at the behavior problem from the viewpoint of the political scientist, feels that "the nature of mass rule must be examined; that the character and range of popular interest in government and the methods of utilizing it must be re-explored."⁷ In the economic approach we may distinguish between Vilfredo Pareto's natural science of economics which studies objective factual data of commodities, distribution, wages, and the like, but which becomes sociological when the social, relational, and human factors become dominant, such as labor, labor organization, standards of living, human values. Again, in the economic approach to the study of physical environment, the chief emphasis is that of mastery, while

³ W. F. Ogburn and Alexander Goldenweiser, *The Social Sciences and Their Interrelations*, ch. xxviii.

⁴ *Quantitative Methods in Politics*, Preface.

⁵ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, chs. xxvi, xxvii.

⁶ "Progress in Political Research," *American Political Science Review*, XX, 11.

in the sociological approach it is a matter of interpretation of relation to culture, evolution, and institutions. The economic approach emphasizes technologies, specialisms, such as finance, banking, and behavior merely as a basis of economic analysis, whereas sociology is interested in all their functional and organization aspects.

At the first Institute for Social Research held at the University of Chicago *Robert E. Park* distinguished between the *historical* and the *sociological* approaches. "The distinction between the aims and methods of history and sociology, so often confused with each other, offered, in his judgment, the clearest way of stating the objective and interest of sociology. History seeks to revive an event of the past with all its individuality of time, place, and sequence. For history, like the memory of an individual, enables us to relive the past in the perspective of the present. Sociology, on the contrary, is interested not in what is individual, but in what is general, about an event, or events. Sociology studies the event, not for itself, but in order to describe the common processes of change in which this event and like events take place. A process in distinction from an event has no location in time or place; from the standpoint of sociology it is universal, that is to say, it can be repeated. The aim of history is the unceasing recording and re-interpretation of interesting and significant human experience; the goal of sociology is to describe, explain, and ultimately to predict the typical patterns of human behavior. The historical method is one of criticism, as the authenticity of the document, the relative reliability of different sources, the validity of interpretation, and the like. The sociological method is that of science, as the working hypothesis, and the technique of comparison and experimentation in order to arrive at findings verifiable by other persons using the same methods."⁷ Illustrations of elemental approaches are plentiful. In the 1928 national political campaign, for instance, claims were made to the effect that the election of Hoover would be a great economic advantage to Florida. Counterclaims were equally marked. Some of these claims were based upon studies with the real economic approach—the tariff, competition with Cuba and Florida for vegetables and fruits, the prosperity basis of welfare. For the most part, however, the claims were based upon behavior patterns and value concepts, prejudices, mass reaction, so that the situation in Florida today must be studied in toto from the sociological approach. Likewise the political scientist must call upon the sociologist for assistance in studying the

⁷ Ernest W. Burgess, "Trend of Sociological Research," *Journal of Applied Sociology*, VIII, 132.

history and development of the culture patterns and the fertile soils in which mass political patterns flourish. In somewhat the same way, the anthropologist might inquire into the genesis and development of certain culture patterns, as related to and as contributed by earlier and more primitive modes. But it is the sociologist whose approach must explain the whole of the pattern in question. The *anthropological* approach which is according to Franz Boas interested in the bodily form, the physiological functions, and the behavior of groups of men will find among its first steps, the co-operative approach with the sociologist. Once again, statistics may approach such a phenomenon if, as Professor Merriam reminds us, the approach is related to significant hypotheses or patterns, which in turn must be furnished through the sociological approach. Likewise, the *ethicist* who is worried about the low order of propaganda and the unprincipled methods utilized in that political campaign, finds himself faced with the study of what is right and what is wrong, of what ought to be right in the future, but he is helpless to explain what *is* and what *has been* and what *will* be, until he co-ordinates his studies with the sociological approach.

Other Distinctive Concepts. Concepts of the sociological approach, as distinctive from all others, thus appear to be based upon synthetic objective. Russell G. Smith makes an aim of his study of the development of human society a "sociological synthesis" by which he means "the drawing together of certain facts and theories in the effort to solve a sociological problem," which in turn is the problem of how society has "come to be as it is now."⁸ His method, however, is that of studying particular factors first. The concept of the sociological method as one of analysis and of finding and relating constants and variables in society is also representative, and, of course, is in no way antagonistic to that of synthesis. In somewhat the way in which induction may be said to require ultimately something of deduction for the complete scientific product, so analysis in the long run must have synthesis if sociological standards are to be maintained and synthesis must be conditioned by analysis. Thus Pitirim Sorokin regards sociology as a "generalizing discipline among other social disciplines" but one which "deals with characteristics which are repeated in time and space or which are constant for a given class of social phenomena no matter in what society or at what time." The main functions of sociology seem to be to describe the constant and uni-

⁸ Syllabi of lectures at Columbia University.

versal characteristics and relationships, to find the correlations between social phenomena and non-social environment, and to determine the constant relationships between special social phenomena such as religion and politics.⁹ Other concepts, not inconsistent with these, seem to incorporate the characteristics of the general, the synthetic, and the analytic, all implying the study of the *whole* of society, rather than merely parts, although manifestly it must take due cognizance and make ample analyses of such parts as may be necessary.

As a matter of fact the apparent difference in these concepts of the sociological approach will serve to make clear its unity and larger meaning. Thus *Eugenio Rignano* makes sociology include the special social disciplines, such as economics, and he emphasizes the significant use of deduction in the case of economics where induction seems necessary in other branches. At the same time his emphasis is primarily upon analysis, and he shows how the laws of Ricardo and Malthus, as well as the assumptions of Comte and of many of the single formula social theorists are interdependent upon the process of analysis. He deplores the tendency to hasten synthesis before adequate detailed analyses have been made. At the same time, a chief premise of his "laws" is that sociology cannot "occupy a fractional domain, like some sciences, but must make a synthetic study of society as a whole." Thus "sociological discoveries should ascend gradually from particular laws to more and more general laws."¹⁰ It is clear, therefore, that much of the seeming variation in the several concepts of the sociological approach can be explained as matters of methodological emphasis or range of sociological materials, as discussed specifically in Chapters II, XVII, and XXIV and as illustrated in various other chapters. The wide range of the sociological approach, therefore, as presented in the next section, and as constantly used to characterize sociology, is representative of the developing science and of the current trend to seek new information through research into more and more particular phenomena to the end that generalizations may become more sure and reliable. This point is emphasized further in the chapters dealing with the experimental method and with social analysis.

The Wide Range of Sociological Approach. We have illustrated the general meaning of the sociological approach by comparing

⁹ *Principles of Rural-Urban Sociology*, ch. i; see also his *Contemporary Sociological Theories*.

¹⁰ See *Eugenio Rignano*, "Sociology, Its Methods and Laws," translated by Howard Becker, *American Journal of Sociology*, XXXIV, pp. 429-450, 605-632.

it with other types of approach enough to indicate something of its scope and distinctiveness. Like the other approaches it is not possible, nor desirable, to make formal definitions. In the case of the sociological approach this would be particularly difficult because of the rapidly expanding range in method and emphasis and because of the confusion of past sociological theories and tendencies. The very diversity and range of the present sociological approach ought to prove one of its chief assets to science, especially when one of its newest and most important emphases is that upon the scientific method. In this pursuit of method and of scientific status, in the meantime, the sociological approach will make valuable contributions. It will achieve new results in the concrete study of many problems, some of which are borderline and tentative, and it will broaden the view of all approaches in social research and pave the way and itself make actual contributions for scientific method in the social sciences. In the meantime, with closer and closer coöperation with the other approaches, it is engaged in attempting social study through such subjects as social organization, institutions, cultural evolution, groups and individuals, personality and adjustment, culture and inheritance, special aspects of all the other approaches, as needed and called for, and a large number of concrete problems, such as population, war, the family, child welfare, marriage and divorce, social legislation.¹¹⁴

Another illustration of the sociological approach may be found in summaries of trends and contributions in the sociological field. A survey of recent contributions and events in the general field of sociology indicates certain apparent tendencies. Some of these tendencies, are, of course, summations from the years immediately preceding and most of them are approximate only, but they give substantial evidence of current direction. There is a decided tendency on the part of sociology to coördinate and correlate its work and research more effectively with the other social sciences and to draw upon them more and more for special data needed in the synthetic study of society. Examples of this are abundant. Thus sociology has tended to increase the variety of its approach to the study of society and the mass of its data until the number of students, teachers, and authors is constantly increasing and the amount of published material is little sort of overwhelming. In the midst of this situation there is,

¹¹⁴ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, ch. xxx.

therefore, a clearly evolving recognition of the essential problem involved in gathering, evaluating, assimilating and synthesizing this growing mass of new data now everywhere so hopefully and attractively being recruited. There is fortunately another very definite tendency toward *differentiation* and *specialization* to the end that "specialisms" within the field are producing data and method for the scientific study of society such as has not yet been approximated. These specialisms extend to both major divisions of the subject and to concrete segments within these divisions, thus bringing about objective and descriptive studies of greater value and developing more effective method. There are also beginnings of the process of integration and correlation, so that the results of the combined present tendencies give promise of a more and more scientific method and more comprehensive results in the whole field of sociology. Some of the examples of specialization and differentiation may be noted. There is a group which is making special studies in the field of *population* with increasing emphasis upon the importance of biological factors. Among those are *Pearl*, *Hankins*, *Huntington*, *East*, *Russell*, *Carr-Saunders*, *Reuter*, *Thompson*, *Woolston*, *Swinburn*, and others. Another group including *Wisler*, *Goldenweiser*, *Boas*, *Lowie*, *Radin*, *Malinowski*, *Sapir*, *Hooten*, *Kroeber*, *Levy-Bruhl*, *Faris*, *Cole*, and others, have substituted concrete new anthropological materials for old terminologies, and have also contributed much data to the cultural research and theory represented also by *Ogburn*, *Tozzer*, *MacCurdy*, *Willey*, *Herskovits*. This group has also made important contributions to the current material on *race*, and along with *Hankins* and others have offset another group of students of race represented by *Stoddard* and *Grant*. There has also been a renaissance of interest in the *Negro* and of studies dealing with specialized phases of his life and contributions, among which are those by *Peterson*, *Radin*, *Herskovitz*, *Weatherford*, *Woofter*, *Johnson*, *Odum*, *Metfessel*, *Locke*, *Scarrboro*, *Kennedy*, and others. In the field of *social psychology* there has been a notable list including *Allport*, *Bernard*, *Bogardus*, *Hart*, *Ellwood*, *Znaniecki* and *Williams*. The emphasis upon the *educational significance* of sociology has resulted in contributions by *Giddings*, *Snedden*, *Peters*, *Groves*, and *Hart*, and has resulted in a special group in the American Sociological Society's annual meeting. Contributions to the study of the *community* begun by *Hart*, *Lindeman*, and *MacIver* have been greatly augmented by *Steiner*, *Lynd*, *Pettit*, *Bowman*, *Follett*, *McClanahan*, and others. In the field of *social work* and *public welfare*, *Gillin*, *Steiner*, *Tufts*, *Eliot*, *Abbott*, *Breckenridge*, *Queen*, *Walker*, *Kelso*, *Odum*, and others, have made contributions, while to the study of *social problems* *Gillin*, *Wood*, *Odum*, *Parsons*, *Beach*, *Baker-Crothers* and *Hudnut*, *Dow*, and others have added

volumes, exclusive of more elementary texts by *Ross*, *Hart*, *Kelley*, *Marshall*, and a score of studies of citizenship. New books on the *family* include those by *Groves*, *Ogburn*, *Goodsell*, *Mowrer*, and others. In the field of *history*, *theory* and *method*, additions have been made by *Giddings*, *Sorokin*, *House*, *Rice*, *Barnes*, *Chaddock*, *Small*, *Hankins*, *Chapin*, *Park*, *Burgess*, *Ogburn*, *Willey*, *Davis*, *Thomas*, *Douglas*, *Spykman*, *Odum*, and *Jocher*. There has been, finally, an increasing number of studies on general "sociological" subjects and on evolution and religion, many of which have come within the field of sociological analysis. Another important tendency has been that which emphasizes social research, in which the American Sociological Society has taken an important part. Definite divisions of the annual meeting have been devoted to reports on research problems, projects and methods, while during the year the Society has kept the emphasis constantly upon recruiting personnel, reports, and materials.¹²

Synthesis and Method. Whatever its range and scope, it is clear that the sociological approach to the study of society finds its basis in the principles and processes of social relationships. It may be a synthetic one, being more comprehensive than the special approaches already described and being coextensive with the entire field of the special social sciences as Franklin H. Giddings suggests, or it may consist in a distinctive method or science of "social elements and first principles"¹³ Or again it may approach the study of society on what Ogburn calls the association level and as such become rather the meeting ground of the other methods¹⁴ That is, the sociological approach may be sufficiently comprehensive as to draw materials from other social sciences which it will coordinate into a body of generalizations. The sociological approach is concerned more with the origins, developments, fundamental processes, and social objectives than are the other special disciplines which approach the study of society through particular interests or processes. From its vast literature and varied attempts to study society, it may appear to be paradoxical in that it is the basis of the other social sciences, which might

¹² See also *The American Year Book*, 1925, pp. 978-981. It is not to be understood that all the efforts mentioned are "scientific," or even "sociological" in the exact sense of the word. They do, however, illustrate the present "approach" with all of its limitations and promise.

¹³ *Principles of Sociology*

¹⁴ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, ch. 1

appear differentiations of sociology, and in that it may also approach society as a synthetic science, utilizing materials from other social sciences. Such a contradiction is more apparent than real and may well be justified by the rapid progress being made.

Current critical discussions of the sociological approach are abundant. Harry Elmer Barnes gives one.¹⁵ The question of the relation of sociology to the special social sciences, which embrace political science, economics, history, jurisprudence, ethics, and social psychology, has furnished the basis of some of the warmest debates to which the recent development of sociology has given rise, and is not yet settled in a conclusive manner. It was inevitable that this problem should involve heated discussions and numerous clashes, since it was at this point that the 'pretensions' of sociology came into the most direct conflict with those of the older and better established special social sciences. The controversy was further complicated by the fact that, not only were the representatives of sociology and the special social sciences at variance over the boundary between their respective disciplines, but there failed to be any general agreement among the sociologists themselves in regard to the nature and scope of their subject.¹⁶ R M MacIver discusses the relation of sociology to other approaches.¹⁷ There is a group of sciences which study particular aspects of social life. Of these politics is perhaps the most ancient, while economics is the youngest and most aggressive. Others are jurisprudence, penology, comparative ethics, and perhaps eugenics. None of these sciences study society as a whole. They are not concerned with its whole structure, with the character or evolution of the whole interdependent mass of its functions and relationships. They select for study the working of particular social motives, such as the economic, particular associations such as the state, particular institutions such as law. They thus leave room for, in fact they invite, a more comprehensive science. This is the science now named sociology.¹⁸ Floyd N House holds that the principal objective of the modern sociological approach has been the method of sociological analysis. "In fact sociology has been frequently defined of late as the study of social groups. This task, however, has proven to lead in two directions so far as specific research endeavors are concerned. On the one hand, it involves the investigation of the nature and conditioning of the social personality, which is the obvious functional unit in social interaction. Likewise it involves inquiry concerning the less obvious but more universal elements of the social interaction,

¹⁵ *Sociology and Political Theory*

¹⁶ *Elements of Social Science*, p. 12

such as interests, attitudes, and wishes, which may be assumed to be present in social processes if genuinely scientific analysis is possible, and if the experience in one case is to be made to reveal with any clarity what may be expected in another. On the other hand, however, the task of social theory involves the direct investigation of the manner in which collective purposes, collective definitions of common situations, and the resulting collective or group behavior are brought about. This latter phase of social theory, the description, classification, and explanation of types of group behavior as such, and of the processes of social interaction and forms of social organization by which collective behavior is made possible, should seemingly constitute the very core or central problem with which the science is concerned, and it is somewhat surprising, in view of this consideration, that more attention has not been paid to this order of inquiries in recent sociological literature. In fact, much more intensive research work has been done on the individual-psychological foundations and aspects of social phenomena than on the collective aspects."¹⁷

Earlier Philosophical Approaches. In none of the social science approaches is the process of development from the earlier philosophical and analogical systems to the later attempts to work out scientific objectivity more clearly in evidence. In many ways the early sociological approaches were synonymous with philosophy, just as was the case with political science and political economy. Thus the story of early sociological theory is largely a story of social philosophy and biological or mechanistic analogy with current sociological theory not yet divorced from them. A simple exercise in the examination of the story of philosophy and the historical story of sociology will indicate the degree of coincidence between philosophy and sociology. F. H. Hankins evaluates sociology as not yet having advanced far in the directions which distinguish science from philosophy and has "rather remained in the stage of social philosophy than arrived at the state of social science."¹⁸

Hankins does not limit his citations of social philosophy to mere historical sociology or "systems." The last of his five main divisions of social theorists, social philosophers, idealists, and

¹⁷ *The Range of Social Theory*, ch. xxi.

¹⁸ H. E. Barnes, *History and Prospects of the Social Sciences*, ch. iv, also Frank H. Hankins, *An Introduction to the Study of Society*.

reformers, lists twelve groups aggregating several hundred writers and students of modern society, including *The Rationalists*, *Utopia*, reason, science, and education, *Libertarians and Anarchists*, *Utopia* through the destruction of restraints on the individual, *Egalitarians*, *Socialists*, *Communists*, *Syndicalists and Bolsheviks*, *Utopia* through equality, democracy and collectivism *Nicholas J Spykman* reviews the situation from the viewpoint of the socio-philosophical approach "Within the fields of theoretic inquiry there is no sharp distinction between the philosophic and the scientific method Philosophy is still rampant in the so-called social sciences Economics has been dominated for a century by speculations about values and by mental gymnastics with the concepts of land, labor, and capital which are comparable only to the scholastic antics with the true, the good, and the beautiful Political science is still trying to emerge from its wrappings, is still trying to free itself from the metaphysical doctrines which have carefully protected it from crude contacts with the harsh world of actuality Jurisprudence is only beginning to discover that there is something more to law than a logically coherent system of legal 'ought' concepts Sociology was born partly of a dissatisfaction with the fragmentary character of the knowledge obtained in the social sciences, of a desire, that is, to see social life whole, and partly of a desire to find a technique of social improvement But neither of these two needs can be satisfied by a science The first can only be satisfied by a social philosophy, the second by an integration and coordination of the knowledge obtained in all social sciences When there also arose a science of sociology, the confusion was complete The term came to be applied indiscriminately to three distinct types of knowledge to social philosophy, to a specific social science, and to a body of knowledge that purported to be social engineering Sociology was anything that had to do with social life, from a social metaphysics to public sanitation "¹⁹"

Other Viewpoints of Sociological Approach. Another way of reviewing the wide range and variety of sociological approach to the study of human society may be found in an examination of many classifications of sociologists and their theories Thus Frank H Hankins had four chief classes of sociologists which he set over against his fifth class of social philosophers, mentioned above These are the *geographical determinists*, the *biological determinists*, the *psychological determinists*, and the *cultural determinists*, with a possible grouping of *methodologists* in the foreground

¹⁹ *The Social Theory of Georg Simmel*, Preface

Pitirim Sorokin, besides the Le Play School, refers to approximately 1,000 social theorists, students, and philosophers His divisions, include *The Mechanistic School*, with 19, *The Geographical School*, with 59, *Biological Interpretation of Social Phenomena Bio-Organismic*, with 16, *Sociological Interpretation of the Struggle for Existence and the Sociology of War*, with 8, *Sociological Interpretation of the Struggle for Existence*, with 41, *Sociological Interpretation of the Struggle for Existence and the Sociology of War*, with 12, *Bio-Social Branch Demographic School*, with 69, *Sociologistic School*, with 16, *Sociologistic School The Formal School and a Systematics of Social Relationship*, with 11, *Sociologistic School Economic School*, with 81, *The Psychological School*, with 29, *Psycho-Sociologistic Theories of Religion, Mores, Law, Public Opinion, Art, and Other Cultural Phenomena as Factors*, with 23, *Other Psycho-Sociologistic Studies of the Correlation Between Various Psycho-Social Phenomena and their Dynamics*, with 169²⁰

Theories and Concepts. One of the chief characteristics of the modern sociological approach has been its attempt to define its science and problems in terms of units and concepts This approach has had a number of incentives In part it was a continuation of the mechanistic analogical method, seeking terminology and concepts for social phenomena comparable at least in purpose with the elements in physical science. In part, it is a product of the older approach through "systems" of sociology which sought to explain society in terms of a single construction as metaphysical idealism In part the multiplication of concepts has grown out of the newer tendency toward objectivity and scientific methodology in sociology Thus this approach resembles the other sociological approaches in that it is highly diversified, wide in its range of quantity, and in that it has both hindered and helped the sociological approach to scientific study In so far as the concepts have been arrived at through subjectivity, abstract processes, and are used to build up deductive philosophy, they have perhaps held back the more scientific phases In so far as they have stimulated objectivity and actually contributed something to the analysis of social factors they have contributed to progress

Earle Edward Eubank found 276 concepts in his study of standard sociological literature²¹ Illustrative of the wide range of

²⁰ *Contemporary Sociological Theories*

²¹ "The Concepts of Sociology," *Social Forces*, V, 386-400

terminology is his presentation of Albion Small's forty-eight items social adjustment, social ascendancy, social assimilation, association, social authority, conditions of society, conflict, social consciousness, constitution of the corporation, contacts, content of the social process, social control, corporation, differentiation, elements of society, social ends of purposes, social evolution, social forces, form of the group, function, genesis, genetic structures, group, individual, individualization, integration, interests, social institutions, social mechanism, nature of the social process, social order, social organism, physical environment, social process, social reactions, social relationships, social situations, spiritual environment As representative of *Eubank's* aggregate grouping three samplings from his alphabetical list will prove a valuable exercise ²²

<i>A</i>	<i>I</i>	<i>P</i>
Accommodation	Idealization	Participation
Accommodation groups	Identification	Participant observer
Acculturation	Imitation	Social pathology
Achievement	Individual	Social pattern
Corporate action	Individualization	Person
Adaptation	Individuation	Personal disorganization
Social adjustment	Infiltration	Personality
Aggregation	In-group	Personality patterns
Amalgamation	Institution	Personality type
Antagonism	Institutionalization	Personalization
Anticipation	Social integration	Perversion
Approach	Interaction	Pluralistic behavior
Ascendancy	Intercommunication	Population
Assimilation	Interest	Social pressure
Association	Interstimulation	Prestige
Atomization	Isolation	Social problem
Social attitude	Interpenetration	Cultural process
Authority		Historic process
Axiological		The general process
		The social process
		Social process
		Social product
		Professionalization
		Progress
		Social progress
		The public

Current Tendencies in the Sociological Approach. Perhaps the chief current tendencies in the sociological approach is that towards scientific methodology, toward concreteness of attack

²² *Ibid*, pp 391-393 In so far as "concepts" have tended to explain all of society in terms of one, or two, or a few exclusive factors, they have tended to become metaphysical

upon social problems, and the tendency to utilize and to contribute toward the data and technique of other social sciences. Throughout this volume perhaps the largest number of references to method have been made to sociologists who have been attempting to find the way out of their own difficulty. Part of this difficulty has arisen because of the wide range of sociological efforts and the divergence of methods and conclusions. Part of it has arisen because of the manifestly unscientific nature and procedure of sociology, and part from the situation in which sociologists find themselves in making a transfer from the older theories and systems to the newer approach. In a study of doctors' dissertations from 1920-1924 and of literature in the *American Journal of Sociology* and *Social Forces* Read Bain found that graduate work in sociology had increased nearly 80 per cent, that the chief interest in research was in institutions and social processes, that interest in the community had increased, that methods of investigation had declined, and that the majority of articles and dissertations were "practical."²³

Ernest W. Burgess thinks that "Sociology is now undergoing a transformation like that which has almost completely changed psychology from metaphysics to an experimental science. From a philosophy of society sociology is emerging into a science of society. Consequently the interest of the new sociology is now turned to defining the experimental point of view, to classifying problems for investigation, and to developing a technique of research."²⁴ *Harry Elmer Barnes* notes a similar change: "Perhaps the most striking aspect of the history of historical sociology is the decline in the interest in this field in the last two decades. From *Comte* to *Giddings* the historical aspect of social problems interested more sociological writers than any other phase of the subject. Even many comprehensive works on the 'principles of sociology' devoted more attention to social evolution than to the analysis of other sociological data. In the last twenty years, however, there has been an extremely marked decline of interest in historical sociology."²⁵ *Floyd N. House* calls attention to the definite problems which sociology is establishing as its own: "Now, as a matter of fact, the science of

²³ "Trends in American Sociology," *Social Forces*, V, 413-422.

²⁴ "The Study of the Delinquent as a Person," *American Journal of Sociology*, XXVIII, 679.

²⁵ "The Development of Historical Sociology," *Publications of the American Sociological Society*, XVI, 47-49.

sociology has in recent decades made progress toward the establishment of the problems which it is more and more clearly identifying as its own.²⁶ It seems quite clear, in the first place, that in sociology we have developed a number of concepts, each of which serves to define a point of view from which almost the whole range of phenomena in which we are interested may be studied. Thus we are making use of several closely related terms which define a point of view from which sociology proceeds as a physical science, or at least as a biological science. 'The economic process,' 'competition,' 'population,' and 'human ecology' are such terms. They indicate a point of view from which we can study the distribution and interaction of human beings in space, and their organization into economic structures. 'Collective behavior,' or 'collective psychology,' is a concept invented by French writers with special attention to their corporate or collective character. A point of view has also been defined from which we study the social interaction by a distinctly psychological technique, with due regard for the motives which animate the actors and the imaginations which they have of one another. We have, however, at present no standardized general term by which to designate this point of view, since 'social process' is taken to include the physical as well as the psychological aspects of the social interaction. 'Human nature,' 'social attitudes,' and 'personality' are terms which represent one or more points of view which are likewise psychological, but which involve the focusing of attention upon the interacting units—the persons and their socially significant attitudes, wishes, and ideas."²⁶

In American Colleges and Universities. There is in the present situation in America evidence both of much progress and of confusion. In a small number of universities such as Princeton, Yale, Harvard, Johns Hopkins, and the University of California the term "sociology" has usually been avoided wherever possible, although various research problems have been attacked. At Harvard courses are given in the field of social ethics, economics, and anthropology. Yale uses the old Sumnerian term "Science of Society." In many universities, however, and especially in smaller institutions, the sociological approach has been broadening and deepening rapidly. Larger efforts have developed in such institutions as Pennsylvania, Minnesota, Chicago, Wisconsin, Michigan, Cornell, Texas, University of North Carolina, Tulane, Vanderbilt, Virginia, and Syracuse. Because of the fact that the

²⁶ "General Methodology," *Publications of the American Sociological Society*, XXI, 169

sociological approach is new and has been greatly diversified, the situation is a little different from that of the economic and historical or the politico-juristic. In some respects the anthropological is similar and finds its organization and procedure merged closely with the sociological. Likewise courses and research efforts in social psychology are often found in departments of sociology. All of this is indicative of the present situation and problem.

In an effort to ascertain some of the *obstacles and difficulties* in the way of sociological development, an inquiry was recently sent to a considerable number of social scientists in the several fields. From sixty or more separate reasons given, the following are presented as covering most of the ground. Historical attitude of mind against social science in general, prejudice because in dealing with moral questions it has come in contact with religion, material included in sociology can be included under other social sciences, reputation of sociologists for radicalism, indefinite and rather unsystematic organization of material, skepticism of value of sociology as academic discipline, business men feel that sociology is a dangerous subject, sociology too general and not sufficiently scientific, being a new science must fight its way against jealousies of older sciences, subject matter of sociology divided among other departments, too much of mixture of desire to save humanity, and scientific, and missionary spirit do not mix, in smaller institution vague feeling that it is a radical subject, term sociology in controversy as to its real meaning, word sociology sounds too much like socialism, exact sciences tend to oppose the introduction of sociology, sociology has failed to demonstrate its utility, misunderstanding as to what sociology is, smaller colleges tend to hold to long established courses and slow to take up sociology which is new, difficulty of finding well qualified teachers, practical and cultural value not recognized.

Specially Selected Problems. The special group of problems used in this volume to illustrate the range and interrelation of the social sciences in research are peculiarly good examples for the sociological approach. That is, population, the family, war, regional problems are essentially fields for synthetic effort with adequate specialization in the study of the relationships on the social level. Human geography has contributed largely to the anthropological, the biological, the economic, the politico-juristic approaches but finds its largest contribution in the sociological approach. Here the inquiries seek to explain the results of physical environment upon the individual, the race, institutions, and also the effects of geo-

graphic factors in distribution of the population over the earth, together with attendant struggles, wars, and conflicts Radhahamal Mukerjee has maintained that regional sociology is the essential mode through which will be possible a scientific classification of social phenomena of association, especially types and groups²⁷

Floyd N. House calls attention to the newer human ecology and its backgrounds of regional study "Ratzel, Vidal de la Blache, and Brunhes had already been asserting that what they were studying was really human ecology, some time before Park, McKenzie, and Mukerjee began to advertise the possibilities of human ecology to the sociologists in the United States. *Mukerjee* proposes a more critical definition of ecology as the study of behavior with reference to conditioning environmental circumstances. The behavior of a particular species of animals, he points out, tends to be the same under all circumstances, but not exactly the same, different species may display the same tendencies and the same species may display different tendencies under the influence of unlike environments. This is of course much more the case with the human species than with any other animal species, and human ecology becomes therefore a much more ambitious undertaking than plant or animal ecology. Human ecology is also distinctive in that the individuals of the human community effect an adjustment to environmental conditions by means of a larger repertoire of reactions than are characteristic of the individuals of a plant or animal species. In other words, the division of labor is one of the fundamental concepts of human ecology."²⁸ *Victor Branford* emphasizes the importance of sociology of the Le Play type in unifying the three established sciences of economics, geography and anthropology, and cites the regional survey as the way of getting at the concrete world around us "So the sociologist builds upon the central concept of modern biology, that life is a rhythmic interplay between organism and environment. Hence his insistence that national life, city life, village life, domestic life, social life, and above all, individual life, can only be grasped by conjoined studies of populations and their environments. This truth is happily becoming a commonplace of thought, and, to an increasing extent, inspires action. But what distinguishes the literature of Regional Survey, is its application of that vital doctrine, in definite surveys of Place, Work, Folk, city by city, region by region, made in open-air observations, after the fashion of the field naturalist, and thereafter studied and considered at home."²⁹

²⁷ *Regional Sociology*

²⁸ *The Range of Social Theory*, pp. 65-66

²⁹ "Science and Sanctity," *The Sociological Review*, XIX, 341-342

CHAPTER XIV

TYPES OF METHOD. THE HISTORICAL

Approach and Method. Historical study occupies a peculiarly important position among the social sciences and in all social research Constituting one of the major "approaches," it also contributes a definite methodology designated as the "historical method" At the outset of this chapter, however, it is necessary to recall again the approximate meanings of the terms "method" and "approach";¹ to make adequate distinctions and delimitations in the present treatment, and especially to remember that the purpose in view is not the presentation primarily of the meaning, scope, and reach of history, but to indicate its place in the approach and methods of social research Manifestly there are ample distinctions between the historical approach as a general index of the place which history holds in the development of the social sciences, and the methods of history which incorporate the technique of historical investigation and the composite method of historical science Manifestly, too, both of these larger aspects are of fundamental importance to social research The historical approach is almost universally applicable to all other approaches and its contributions are of great variety and substance So, too, historical method is a term of quite variable usage, both in its technical application and in its more general connotations There is a very wide range of meaning between the historical "method" as the gathering of materials and evidence, or the technique of historical investigation, and the "method" of science implied in the analysis, interpretation, and synthesis of materials already gathered It seems likely, therefore, that we may profitably consider four separate meanings which are nevertheless mutually interdependent These are the general *historical approach* to social study, including the ramifications of the historical contribution and meaning, the *historical technique* of investigation, the *historical art* of narration,

¹ See Chapters I, XIX, and XXIV, for various characterizations and delimitations of terms used, and of "method" in general

and the composite *historical method*. These varying aspects of the subject, so far from adding to the confusion of treatment, may help in the analysis of the situation and in illustrating the present problems and status of methodology in the social sciences.

The Historical Approach. History as a record of the past makes its approach the most inclusive of all social study, since it applies to all phases. Much of the data of the social sciences finds its essential qualities as meanings in social change. Historical study examines the changes and processes. Genetic development and evolution are alike objectives of historical study in all fields of human society or of social science. Through the historical approach and method the cultures of early peoples, now often extinct, are reconstructed, while the processes of present-day society are interpreted in the light of what has gone before. The historical approach itself has many subdivisions, such as political history, economic history, social history, while on the other hand every other approach has its own historical stages and entity. There is a history of psychology, of biology, of chemistry, of medicine, of philosophy, of all science, to mention only a few. On the other hand, back of history, in time sequence, may be anthropology, and back of anthropology, archaeology, each being of the essence of "history," and all constituting fundamental approaches to various aspects of social research. Perhaps the best way to attempt this general interpretation of the historical approach and method will be to examine their relation to other types of approach, to look into the various meanings of history as related to the composite study of society and its problems, and to follow these with a presentation of various aspects of what is called the "historical method" in so far as we may find evidences of its definite characterization. It must be clear at the outset, that the abundance of literature in this field will make selection of the best illustrations difficult, and that brief examples must suffice.

To begin with the *philosophical approach*, we are confronted at once with a two-fold relationship of great range. The one is the rich history of philosophy, sometimes assuming proportions of the history of man's intellectual life and experiences. On the other hand, we come early to the consideration of that concept that "history is philosophy and philosophy history," through which modern philosophy claims history as a synthesis of all

human happenings. The acceptance of this concept, according to *Frederick J. Teggart*, has led the historian "away from the activity which we speak of as 'science' into a world of speculation, designated 'philosophy of history'. . . further into the midst of disputing philosophers, and has made him a party to debates with which, as a historian, he has no proper concern."³ The examination of this phase of the philosophical approach alone would constitute a large undertaking. If then we come next to the *general analogical approach* to the study of society, we find again two major aspects of the historical approach. The one is that of the historical method itself as one of analogy, which is discussed later in this chapter. The other is the relation of the historical method to the *comparative method* which is not only an important general method of social research but especially applicable to the historical approach. The comparative method, and its special application to the historical, is "scientific" in proportion, in the words of *James Bryce*, as the student puts "life and blood into historical records . . . he must think of the Past with the same keenness of interest as if it were the Present, and of the Present with the same coolness of reflection as if it were the Past."⁴ But for the effective approach to social science, the comparative method must encompass not only difference in time but in place and social relations. "The fundamentals of human nature, present everywhere, are in each country modified by the influences of race, of external conditions, such as climate and the occupations that arise from physical resources of the country. Next come the historical antecedents which have moulded the minds and shaped the ideals of nations."⁵ So, too, *Eugenio Rignano*, looking at the comparative method from the viewpoint of the comprehensive study of society, considers the most important form of comparison "that of different human societies existing at a definite period in different parts of the world."⁶ We have already referred to the historical aspects of the *biological* and the *anthropological approach* as found in the whole study of evolution and social development. Both the biological evolution of man and his cultural development, including the history of his adaptation to geographical

³ *Theory of History*, p. 44.

⁴ *Modern Democracies*, pp. 17-18.

⁵ *Ibid.*

⁶ "Sociology, Its Methods and Laws," translated by Howard Becker, *American Journal of Sociology*, XXXIV, 440. Rignano's three methods are those of pure observation, experiment, and comparison. His comparative method includes the comparison of human and animal societies, comparison of different human societies existing at a definite time in different parts of the world, and comparison of different consecutive states of the same society. Thus the historical approach for him is preëminently that of the comparative method.

environment, constitute backgrounds of primary importance to all social study. Thus *Franklin H. Giddings* ventures five groups of theories in history, before "arguing gently" that "human history is a psychological or behavioristic equilibration." These groups include the predestinational philosophies of the metaphysicians, theological and other, the philosophies of social self-determination, the geographical or "environmental" interpretations, the explanations in terms of heritage (not heredity); and the fifth group writes "chapters out of the book of cosmic dynamics." Thus Giddings long ago stated the modern emphasis that both history and political science are based upon human behavior "For, when all is said, history is human behavior."⁷ Both the *psychological* and the *politico-juristic* approach are enriched by the historical contribution. When we come to the *economic approach* we are reminded of *Edwin R. A. Seligman's* requirements for the economic historian who must have "the professional equipment of an historian, he must know his historical material and be familiar with the technique of interpretation. Above all, he must have the historical sense and power of imagination without which no good history can be written. In this way it may be said that economics has become penetrated by history."⁸ Finally, the relation of the historical approach to the *sociological* brings us to the long "quarrel" between sociology and history, comparable to the other feud already mentioned between the philosophy of history and history.⁹ And there is the perennial discussion of the possible close relationships between the "synthetic history" and sociology, which, while affording an admirable example of interrelationships in discussion, need not now be given more consideration.¹⁰ It is but a naive assumption to reiterate the affirmation that sociology needs history and history needs sociology.

The Meanings and Reach of History. It appears, therefore, that we find the various discussions of the concepts of history more germane to the historical approach than the controversies on methods, although the latter are manifestly more vital to social research itself. Ultimately we shall come to ask how the historical method may contribute most to cooperative research.

⁷ *Studies in the Theory of Human Society*, ch. v.

⁸ W. F. Ogburn and Alexander Goldenweiser, *The Social Sciences and Their Interrelations*, p. 179.

⁹ See J. O. Hertzler, "The Sociological Uses of History," *American Journal of Sociology*, XXXI, 174.

¹⁰ See Harry Elmer Barnes, "The Significance of Sociology for the 'New' or Synthetic History," *The Historical Outlook*, XIII, 277-299. Also *The New History and Social Intelligence*, *passim*, and *The History and Prospects of the Social Sciences*, ch. 1.

in any or in all fields. But at the present moment our emphasis is one of interpretation of the general mutual interdependence of the historical with other approaches. If history, for instance, comes to seek how civilization has come to be what it is, then history and sociology are working hand in hand, and it would seem very important for more of the sociologists to know more about the doings of the historians and for more of the historians to know more about what the sociologists are trying to do.¹¹ And so for the other approaches which rest primarily upon the several disciplinary techniques. Thus *Edward M. East* urges that "real history should be no mere record of the course of human events, but an attempt at the solution of human problems through a careful weighing of the various factors which affect the development of nations and the progress of the race as a whole."¹² And he thinks that the real historians of modern times are attempting to do this very thing. But more representative still of this aspect of the historical approach is the large body of historical writings which has variously been called the "new" history or the "synthetic" history, but which also incorporates a great deal of what might be termed the "analytic" history. Ample references to this type of historical literature will be made in later parts of this chapter, suffice it to add here that it ranges all the way from *Frederick Jackson Turner's* pioneering work to the stimulating efforts of *James Harvey Robinson* and others of the "new school".¹³

To the student of social problems, from whatever viewpoint, the new type of history represented by *The History of American Life* edited by *Arihus M. Schlesinger* and *Dixon Ryan Fox*¹⁴ will appeal because they are in essence studies of social culture as well as historical writings. Emphasis is laid upon conditions that have shaped the social, intellectual, and cultural developments of each period rather than the merely descriptive narrative. Thus the story of the rise of the common man is set in

¹¹ See C. M. Case, "Method in the Social Sciences," *American Journal of Sociology*, XI, 255-265.

¹² *Mankind at the Crossroads*, pp. 3-5, also *Heredity and Human Affairs*, ch. 1.

¹³ See Howard W. Odum (ed.), *American Masters of Social Science*, and especially Carl Becker's brilliant chapter on Turner and Harry Elmer Barnes' presentation of James Harvey Robinson. See also the long roll call of "new" historians in Barnes' *The New History and Social Intelligence*.

¹⁴ Volumes published up to 1928 included *The First Americans*, *Provincial Society*, *The Rise of the Common Man*, and *The Emergence of Modern America*.

marked contrast to the older historical narratives of military and political events. So, too, the emergence of the modern America is pictured as a story of social and economic change and of interpretations of forces and backgrounds. Still another illustration of the relation of the historical approach to the study of society is the varying emphasis which history places upon *social progress*. One illustration will indicate such an emphasis with its basis for controversy and methodological discussion. Frederick J. Teggart, for instance, interprets Professor Cheney's six "historic laws" as being derived from the last two hundred and fifty years' discussion of the idea of progress. These "laws" were those of *continuity*, of *mutability*, of *interdependence*, of *democracy*, of *necessity for free consent*, and of *moral progress*.¹⁵ And it seems clear that in whatever manner history may attempt to describe and interpret "progress" it will be contributing to the general approach of cooperative research.¹⁶

From Approach to Method. Thus far our discussion of the relation of the historical approach to social research has involved little of "method" except in the very general meaning of the word. The new history, for instance, is rich in contributions of materials, range, interpretation, and in more effective utilization of whatever methods it may employ. But its emphasis is not primarily upon method, indeed it would be possible to interpret some of its contributions as departing from the "pure" historical method of doing research only through the documentary way. Certainly, however, its contributions to the general approach to social study is one of major significance. What then is the point of transition between this general contribution in approach and the specific contribution in method? Keeping in mind the relative meaning of the term "method" and the necessary overlappings and interrelations, what are the valid bases for the high appraisal of the historical method for all social research? Here, two distinctions made by Frederick J. Teggart are suggestive. One is that the new history emphasizes subject matter rather than method. "The 'new' history," he writes, "makes a plea for

¹⁵ *Theory of History*, pp. 206-207. See also Edward P. Cheney, "Law in History," *American Historical Review*, XXIX, 231-248.

¹⁶ See also Franklin H. Giddings, *Studies in the Theory of Human Society*, especially ch. v on "A Theory of History," and ch. xiv on "The Costs of Progress." See also recent volumes, J. O. Hertzler, *Social Progress*, F. Stuart Chapin, *Cultural Change*, J. K. Folsom, *Culture and Social Progress*, and Charles A. Ellwood, *Cultural Evolution*.

greater inclusiveness of subject matter in historical narrative (following Voltaire), I have not been able to find that it has called attention to methodological problems”¹⁷ The other distinction is one between method as technique of investigation and as scientific induction, on the one hand, and technique of historical investigation and of historical narrative, on the other “The distinction which I make,” he insists, “is between the *technique* of historical investigation and the *art* of historical narrative It appears to me of great importance to keep this distinction clear We arrive at certain data by means of a technique (in this instance, the critical examination of documents), we then proceed to utilize these results for different purposes, such as the construction of a narrative, or for making scientific inductions”¹⁸ Here then are points of transition that are both technically exact and approximate in application With these as starting points, therefore, we may now inquire into the relation between the historical *method* and the various approaches and other methods, just as we examined the general historical approach in relation to other approaches We begin with two statements, the one interpreting the “historical method” as it relates to various social disciplines and their work, and the other interpreting the historical method in a broader and more general application of scope, interpretation, and possible inductive science

William F. Ogburn calls attention to the meaning of the word historical in its relation to the several social sciences “In the branch of study known as *history*, we think of the historical method as the description of events by the use of documents, records, and authorities In *anthropology*, the historical method means the collection and use of cultural facts to explain ethnological phenomena. In *economics* the historical method is largely descriptive and is contrasted with the analytical . In *sociology* historical is the term used to characterize the procedure of the historical sociologists, more particularly the method used in studying the history of society, the development of culture, and the evolutions of social institutions In all these fields, then, the historical element has one common element, namely, the collection of cultural facts leading up to the phenomena”¹⁹ *Harry Elmer Barnes*, on the other hand, illus-

¹⁷ In a letter to the authors, January 9, 1929

¹⁸ *Ibid.*

¹⁹ “The Historical Method in the Analysis of Social Phenomena,” *Publications of the American Sociological Society*, XVI, 70-71

trates with the "new" or synthetic history the basis for the development of methodology of whatever sort when he says, "Accepting the view of the critical or objective school that the truth must be sought in every case, but rejecting its limited range of interests, there has developed a group of historians who contend that history must include within its scope the explanation of the development of culture and civilization in all of its aspects—the growth of ideas, the accumulation of traditions, the history of the esthetic achievement, the rise and advance of natural science, the progress of material culture and the development of the various forms of economic, social and political groupings and institutions "²⁰

History and Method. From whatever angle we approach it, the fundamental characteristic of the historical method is that its data are drawn wholly from the past. It seeks its subject matter in records and remains—monuments, architectural fragments, the remains of early cultures brought to light by the archæologist, strata of rock and fossil formations, all kinds and types of cumulative evidence—these and many others furnish the materials with which the historian works. Information handed down by word of mouth is often considered outside the realm of historical evidence since its validity cannot be established or even estimated,²¹ although tradition may be regarded as part of history. These historical data have two primary purposes. In the first place, they are used in an effort to reconstruct the past in the light of the present. Historical evidence is frequently fragmentary. There are great gaps which the historian must supply from his knowledge of the present. And even where the evidence is comparatively complete, interpretation can be made chiefly by analogy with that which is actually known. This was the original purpose of history and historical method. But another and perhaps more important function has been added, namely, an analysis of past events for the purpose of interpreting the structure and organization of contemporary society. And here again the chief approach is through analogy although the careful historian now attempts to interpret culture patterns and psychological backgrounds. The historical method and approach, therefore, envisages the reconstruction of the

²⁰ *The History and Prospects of the Social Sciences*, p 3

²¹ Cf Allen Johnson, *The Historian and Historical Evidence*, pp 4, 5. See also Ch V Langlois and Ch Seignobos, *Introduction to the Study of History*, pp 17, 65, F M Fling, *The Writing of History*, pp 24, 25, lectures of W E Caldwell.

past in the light of the present and the interpretation of the present structure and organization of society based upon an analytical study of the past through the analysis and interpretation of records

Franklin H Giddings says of the historical method, "In point of logic scientific method in history is only an application of those procedures of scrutiny which all sciences avail themselves of to determine fact, . . . but it is an application of them to one class of facts in particular, and it has become highly detailed and technical. The facts with which history has particularly to do are facts of record, and these are indispensable not only for history in the narrower meaning of the word but also in every domain of science and art, since an observation once made exists thenceforth only as recorded. Therefore, in the systematic accumulation and comparison of observations in any field of scientific study, it is necessary to use or to rely upon the technical procedures of historical criticism"²² On the other hand, *Ch V Langlois* and *Ch Seignobos* maintain that "events can be empirically known in two ways only by direct observation while they are in progress, and indirectly, by the study of the traces which they leave behind them . . . Now, the peculiarity of 'historical facts' is this, that they are only known indirectly by the help of their traces. Historical knowledge is essentially indirect knowledge. The methods of historical science ought, therefore, to be radically different from those of the direct sciences, that is to say, of all the other sciences except geology, which are founded on direct observation. Historical science, whatever may be said, is not a science of observation at all"²³ *William F Ogburn* defines the historical method as "the description of events by the use of documents, records, and authorities . . . In all . . . fields . . . the historical method has one common element, namely, the collection of cultural facts leading up to the phenomena. In some cases getting the facts means written documents, in other cases it means digging in the soil. Sometimes the method is simply descriptive. In other cases considerable analysis is involved leading to inquiries into causes"²⁴ *F Stuart Chapin* characterizes the "modern historical method of documentary criticism" as a "highly developed technique for evaluating in truly scientific fashion the records of observations made in the past by persons now deceased"²⁵

²² *The Scientific Study of Human Society*, p 100. See also Ernest Scott, *History and Historical Problems*, pp 24, 35.

²³ *Introduction to the Study of History*, pp 63, 64.

²⁴ "The Historical Method in the Analysis of Social Phenomena," *Publications of the American Sociological Society*, XVI, 70-71.

²⁵ "Progress in Methods of Inquiry and Research in the Social and Economic Sciences," *Scientific Monthly*, XIX, 394.

Fundamentals of the Historical Method. Reference has already been made to the historical method as an indirect method of observation,²⁶ since the materials of history can never be studied at first hand, but consist entirely of documents, which may be either material evidence or written evidence, "for there is no substitute for documents no documents, no history"²⁷ Historical evidence for certain periods is extremely fragmentary which leaves large gaps in the reconstruction of the past Care must be exercised in the selection and use of such data, so that only those data which present reasonable evidence of authenticity will be utilized For this purpose certain standards of measurement, known as "external criticism" and "internal criticism" have been devised and adopted for testing all documentary evidence The former, in the nature of a preliminary investigation, asks questions with reference to "the writing, the language, the form, the source" of the document, while internal criticism "endeavors, by the help of analogies mostly borrowed from general psychology, to reproduce the mental states through which the author of the document passed"²⁸ After meeting this second test, the document becomes an "observation," and is then ready for treatment by the "methods of the objective sciences"²⁹ This detailed examination of all documentary evidence constitutes the foundation of the historical method, and is basic for its scientific validity Through this procedure, not only is unauthoritative, unsubstantiated, and false evidence eliminated, but the opportunity for subjectivity is reduced, although not entirely removed The key position which history holds in its relation to all the social sciences makes it imperative, therefore, that not only the student of history, but every student of social research familiarize himself with the basic principles of this method, since he will undoubtedly have need of it at some time during the course of his researches.

While maintaining that "the 'historical,' or indirect, method is . . . obviously inferior to the method of direct observation," Langlois and Seignobos recognize that the "historians have no

²⁶ Langlois and Seignobos, *Introduction to the Study of History*, pp 63-65

²⁷ Langlois and Seignobos, *Introduction to the Study of History*, pp 17, 65, see also F M Flung, *The Writing of History*, pp 24-25

²⁸ Langlois and Seignobos, *Introduction to the Study of History*, pp 66-67, see also F M Flung, *The Writing of History*, pp 26-27.

²⁹ Langlois and Seignobos, *Introduction to the Study of History*, p 67

choice," since this "is the *only* method of arriving at past facts, and in spite of (its) disadvantages, it is possible for this method to lead to scientific knowledge"³⁰ "The quintessence of the whole process of historical criticism," writes *Allen Johnson*, "is contained in Von Sybel's memorial address on Von Ranke, and particularly in the following words 'Every narrator of events reports to us not the events themselves, but the impression which he has received of them. In this process of representation, however, there is always mingled, after an experience, a subjective element, and to retain the true picture of events by eliminating this subjective element is the task of historical criticism'"³¹ *Hornell Hart* agrees that "the historical method is characterized by its use of documents as its basic materials. The documents used are almost entirely the results of the common-sense method as applied by contemporary observers. That is to say, they are the records of the experiences, the acts, and the observations of individuals not attempting rigid definitions, classifications, enumerations, measurements, or correlations, and not seeking to make exhaustive investigations"³² *Allen Johnson* stresses doubt as the beginning of wisdom in historical studies. He continues, "Unless one shakes off the credulity of the natural man and the disposition to follow authority—especially the authority of the written or printed word—he can never attain new and independent points of view in history. It is only by resolutely questioning the authenticity and value of sources that a mastery of historical facts can be won. In no field of scholarship does the dead hand of tradition weigh more heavily, for human emotions and passions are often involved in the preservation of this or that interpretation of history. Nearly all the medieval chroniclers were propagandists, and even some modern historians have consciously or unconsciously become defenders of the faith or a sect, a principle or a party"³³ He further emphasizes the importance of a detailed examination of source material precedent to an evaluation of its worth and gives in detail the processes of external and internal criticism³⁴ *Franklin H. Giddings* asserts that "upon human testimony all our inferences and conclusions from narrative and statistical data ultimately rest. When we have discovered that historical or statistical documents are genuine as records, we

³⁰ Cf. *Langlois* and *Seignobos*, *Introduction to the Study of History*, Author's Preface, also p. 65.

³¹ *The Historian and Historical Evidence*, p. 100. Cf. *Teggart, Theory of History*, chs. III–VI.

³² "Science and Sociology," *American Journal of Sociology*, XXVII, 370–371.

³³ *The Historian and Historical Evidence*, p. 50. Cf. *Jean Jules Jusserand* and others, *The Writing of History*, pp. 21–28.

³⁴ *The Historian and Historical Evidence*, ch. III.

still have to inquire whether the story they tell is credible "³⁵ *W L Westerman* ascribes much of the failure of the older economists to three chief causes "They lack that specialized knowledge of the sources of information which alone would enable them to distinguish between acceptable evidence and broken, isolated and doubtful hints or suggestions Second in their search for 'stages' of economic development, they tend to group and tie up into packets marked with a single rubric, facts belonging to economic periods which are entirely different in character Third they lack that intimate knowledge of the manifold activities of men of the past which were not economic, within which and through which alone the economic movements obtained their sanction and their meaning In this situation their demand upon the historian—that he furnish them with trustworthy information, tell them what can be known and what cannot be known—is from every standpoint justified "³⁶

Limitations of the Historical Method. The tendency to confuse similarity with identity has been shown to be the chief defect of the analogical approach to the study of any social phenomenon ³⁷ In so far as the historical method implies a method by analogy this will constitute one of its chief limitations ³⁸ No two things or events are exactly alike, and especially is it said of history that every happening is an unique occurrence ³⁹ People, things, and events, however, are similar, and it is upon similarities that analogies are based The scarcity and fragmentary character of documents, as well as the difficulty of their location and their frequent inaccessibility, make it almost impossible at times to reconstruct an adequate picture of the past, even when knowledge of the present is drawn upon, and this also applies to the interpretation of the present through an analysis of the past The formulation of hypotheses is sometimes considered a characteristic of the historical method,⁴⁰ but it does not follow that it is the province

³⁵ *The Scientific Study of Human Society*, p. 101

³⁶ "On the Sources and Methods of Research in Economic History," *Political Science Quarterly*, 37, pp. 71-74

³⁷ See Chapters VII and VIII

³⁸ Cf Langlois and Seignobos, *Introduction to the Study of History*, Book III, ch. 1. See also H B George, *Historical Evidence*, ch viii, Ernest Scott, *History and Historical Problems*, pp. 31-35

³⁹ Cf Stuart A Rice, *Quantitative Methods in Politics*, p. 38. See also F M Fling, *The Writing of History*, ch. 1, E P Cheney, "Law in History," *American Historical Review*, XXIX, 247

⁴⁰ Cf Johnson, *The Historian and Historical Evidence*, ch. vii

or duty of history to predict. With every passing day, history, as a body of knowledge, increases, so also do the social and physical realms grow more intricate and complicated. And as history, the social science, becomes more complex, so must history as a method adjust to meet these changes. It is sometimes said that it is the task of the historian to select the significant facts, but what is to be the criterion as to whether an event is significant or not? This query is particularly timely in view of the present emphasis upon human behavior as the key index to all social science. Although historical criticism has endeavored to safeguard against partial emphasis or wrong deductions, the interpretations of the classical historian have often been characterized as highly subjective, especially when regarded from the point of view of the "new" history.

Frederick J. Teggart believes that the difficulties in which the historian finds himself are inherent in and "inseparable from the mode of procedure which he has adopted." In the first place he begins with the study of a body of documents, and proceeds to the presentation of the results of his investigations in the form of an historical narrative. In the second place, he has taken over this form of statement without consideration of the source of inspiration and of the characteristics of history-writing. Third, in the effort to eliminate the emotional and esthetic features of the older historiography, he has set up an ideal of detachment and impartiality which admittedly is applicable only to the detailed monographic studies addressed to other historical scholars.⁴¹ *Hornell Hart* agrees that "even with the best intentions, . . . certain handicaps are inherent in the historical method. The original documents tend to be selective in the data which they report, for they reflect for the most part the viewpoint of the educated and privileged classes and are colored by the superstitions, prejudices, and limitations of the times when they were written."⁴² However *Jean Jules Jusserand* maintains that the historian is justified in expressing his views, in summarizing and in concluding. When he has "conscientiously studied his facts, his documents, gone to all the accessible sources of information, well weighed his evidence, . . . he has done his duty. And that duty includes the admission into his work of a certain amount of possibilities and probabilities."⁴³ Again *Teggart* insists that a distinction must be made between the *technique* of historical

⁴¹ *Theory of History*, p. 27.

⁴² "Science and Sociology," *American Journal of Sociology*, XXVII, 370-371.

⁴³ *The Writing of History*, pp. 19, 20.

investigation and the *art* of historical narrative and that "if we are to have a science of man, historical investigation must be freed from its present subordination to the art of history-writing" ⁴⁴ John Spencer Bassett states that "the earliest writers in the (historical) school, while jumping at the idea that history is a science, were quite willing to say it could not be literature. But as it became evident that history is not a science, they became less confident that it is not literature. At present we are halting at the door, sometimes within it and sometimes without it" ⁴⁵ But Jusserand holds that "history is not simply an art, nor simply a science, . . . it participates in the nature of both. In the hunt for facts and the ascertaining of truth, the historian must be as conscientious as the scientist. In the presentation he must be an artist, a true one . . . Art is selection. Historians must select, they can not write history life-size, among thousands of facts they have to choose those especially important or especially characteristic" ⁴⁶ "If science is organized knowledge, then both natural science and history are scientific, they represent the complete organization of reality from two different logical points of view," writes Fred M Fling ⁴⁷ "The false assumption that history is a branch of literature, that an historical narrative must be a work of art, has seriously hampered the progress of scientific historical work." ⁴⁸ Although Allen Johnson regards the formulation of hypotheses as a logical step in historical method, his reference is to hypotheses "that invite investigation" and not those that attempt to establish "fixed theories that control investigation" ⁴⁹

The Historical Method and Cooperative Research. Perhaps, the best way to continue our interpretation of the historical method will be to examine its promise in the field of cooperative research, as reflected in some further concepts of its varying relations to other fields of knowledge. For, despite its obvious limitations the historical method is not only indispensable to research in that particular field and in closely allied specialisms, but to the whole process of social research. To what extent will the historical method contribute to both individual research and to cooperative

⁴⁴ *Theory of History*, pp 66-68

⁴⁵ J J Jusserand and others, *The Writing of History*, p 113 Cf F M Fling, *The Writing of History*, pp 155-158

⁴⁶ *The Writing of History*, pp 3, 4

⁴⁷ *The Writing of History*, p 20 Cf H B George, *Historical Evidence*, pp 21-28

⁴⁸ *The Writing of History*, p 20

⁴⁹ *The Historian and Historical Evidence*, pp 160-161, see also J J Jusserand and others, *The Writing of History*, p 20

research in its growing application? To cooperative research which finds its validity, not in eliminating the individual from the techniques of investigation and from imaginative effort, but in both the scientific analysis of results, in the pooling of efforts, and in the developing of effective techniques for both quantitative and qualitative studies It seems apparent that history as a thing apart, merely as a record of events, will not prosper in this era when the past is studied in the light of all the influences which have brought about the evolution of society And from this viewpoint, the historical method becomes both a specialized technique available for all social research in so far as it is applicable, and an inductive and synthetic science in so far as it may develop along with the unity of all modern research methods in the social sciences

Following this line of thought, *Allen Johnson* holds that "Whatever history may or may not include, . . . no one is likely to mistake the significance of the word *historical*. It indicates a point of view, a way of describing things, a method of approach to the study of phenomena . . . So long as (the) historical point of view is maintained, it does not much matter whether the study be called history or sociology, old history or new history, biography or psychoanalysis, ancient history or current events, or simply news "⁵⁰ And again, *Percy Scott Flippin* writes, "There is a close connection between history and the social sciences History and the social struggle are closely intertwined and dovetailed into each other The human element is constantly to be reckoned with, for human beings have made history and have had much to do with creating social conditions Men change their habits and customs very slowly for the tendency is for habits and customs to persist It is strikingly true that social conditions tend to repeat themselves and the social customs of today would seem to show very clear evidence of the outgrowth and development of the customs of the past It is, therefore, necessary to know the past in regard to social conditions in order to understand the origin of the social conditions of the present "⁵¹ Not only has history contributed to the specific social sciences, but these specialisms have in turn aided in the interpretation of history According to *Ernest Scott*, "the modern science of anthropo-geography regards history as little more than geography expressed in terms of human action It is, in the language of one of its expositors, 'in no small part a succession of geographical factors embodied in events'"⁵² *Edwin R. A. Seligman* main-

⁵⁰ *The Historian and Historical Evidence*, p 23

⁵¹ *Importance of Historical Research to the Teaching of the Social Sciences*, pp 51-53.

⁵² *History and Historical Problems*, p. 47

tains that "The real contributions, however, to economic history, have been made not by historians but by economists. This is true with some rare exceptions even at present, and is entirely explicable. For the historian in general can with difficulty be expert in all the multiform phases of human interest which constitute either the present or the past of human society.

On the other hand, the historical economist must not only be skilled in the science of economics: he must be an economic historian, that is trained in history."⁵³ Psychology has also contributed to history, particularly through psychoanalysis. According to *Wilson D. Wallis*, "Psychological analysis is, of course, only one of the tools of the historian, whose tool-chest already contains a multitude of implements. That it is a tool which he must use is brought home to us by the extent to which historical reconstructions depend upon the interpretation of facts and events as well as upon their discovery. Every new psychological interpretation reflects back upon the field in which the historian works, and colors his inferences as well as his findings."⁵⁴ With reference to political science, the contribution has also been reciprocal. *Arthur N. Holcombe* asserts that, "The first requirement of the political scientist who wishes to make better use of historical materials is a more serviceable interpretation of history. Metaphysical, economic, physiographic, racial, sociological, and psychological interpretations of history have made solid contributions to political science, and, as they become less imperfect, may be expected to make even more substantial contributions."⁵⁵ Attention has already been called to *Franklin H. Giddings'* high evaluation of the historical method to students of sociology. *C. J. Bushnell* considers the historical or "genetic" as the scientific method of sociology, because "in common with all other sciences, sociology endeavors to explain a fact by showing 'the exact and exclusive conditions of its origin'."⁵⁶ In accord with this point of view, *Thomas D. Eliot* says, "In fact, sociology must include in its data any material offered by history, if it is not to forfeit its claims as a science. Either all happenings involving society are capable of being analyzed, classified, and clarified by means of existing formulas and methods, or the scope of so-called sociological laws should be so enlarged as to make this possible."⁵⁷ The relation of history to the

⁵³ W F Ogburn and Alexander Goldenweiser, *The Social Sciences and Their Interrelations*, p. 179.

⁵⁴ *Ibid.*, p. 218.

⁵⁵ *Ibid.*, pp. 205-206.

⁵⁶ "Scientific Method in Sociology," *American Journal of Sociology*, XXV,

48-51.

⁵⁷ "The Use of History for Research in Theoretical Sociology," *American Journal of Sociology*, XXVII, 628-629.

social sciences in general is summed up by *Charles A. Ellwood* as follows "The study of human history enables us to compare social processes and social behavior at different points of time

Thus reliable written history furnishes the scientific student of society a mine of social facts which are perhaps more valuable than any other set of facts in the inductive study of human society."⁵⁸ Finally *Allen Johnson* summarizes the two-fold nature of the contribution of history and the other social sciences when he says, "Historians owe much to the social sciences, no doubt, but the obligation is reciprocal. The social sciences were founded on data furnished by historical research, and they cannot remain indifferent to the critical processes by which that material was obtained. There are cogent reasons for believing, moreover, that historians will continue to furnish data which political scientists, anthropologists, economists, and sociologists will need increasingly. It may well be that historians need a wider point of view—and that they would profit by using the hypotheses suggested by the social sciences, but more than ever they must weigh evidence with meticulous care. The more daring and the more promising the hypotheses, the greater the obligation to tell the truth, the whole truth, and nothing but the truth."⁵⁹

Applied to Special Social Problems. The test of all the foregoing may well be continued by their application to the special problems being used for illustrative purposes in this volume. That is, how does the historical method contribute especially to research in these problems, through its methods of documentary examination and through its part in the cooperative research program? Perhaps the best answer to this inquiry will be found in the notable publications concerning the origin and progress of the war, the remarkable utilization of documents in these and many other post-war studies, in the researches of such groups as the Carnegie Endowment for Peace, and in the active and effective participation of historians in recent international negotiations and inquiries. With such an application the whole significance and status of the historical method becomes at once manifest. The second illustration is that of regional research in the Southern States. As a program of such research is projected two situations become evident. One is that studies in this field from documentary

⁵⁸ "Scientific Methods of Studying Human Society," *Journal of Social Forces*, II, 329-330

⁵⁹ *The Historian and Historical Evidence*, p. 176

evidence have been neglected and the other is that there is a great scarcity of documentary evidence upon many subjects. Such studies as the changing attitude of the South toward women or the social history of the South depend largely for their prosecution upon the critical examination of adequate documentary evidence. And while some of these studies, and others, of political leaders, political parties, and the culture of the old South, are being undertaken, there is greater evidence of possibilities than of actual accomplishments. Such studies reveal again the importance of the historical technique of investigation and of the need for co-operative attack.

Recognition of the principles and applications of the various aspects of historical inquiry is reflected in the efforts of *J. G. de R. Hamilton* and *L. R. Wilson* of the University of North Carolina to develop a National Southern collection of historical source materials. As Hamilton puts it, "Material is not and never has been available from which to write the history of the South. The burden of expense—of time, effort and money—has served to discourage a host of those who would otherwise have given the past of the South the same attention which other sections have received. Allusion has been made to the fact that we know more about Washington and Jefferson than we do of other Southern men. Their greatness is a partial explanation, but another of not less importance is found in the fact that their correspondence was preserved by them and their families and that each kept a mass of other personal records. It is even possible to account for the whereabouts of Washington on almost every day of his adult life. The whole situation is unfortunate and the time is ripe to remedy it so far as possible by the establishment of a great library of Southern historical material or, to express it perhaps more accurately, of Southern human records." The Southern collection, as planned, will include, so far as is possible today, every book or pamphlet of any kind on any subject written in the South or by a Southerner, every one which deals in any way with the Southern States, their people or their problems. It will contain State publications of every sort, general historical works, monographs, biographies, town, county and other local histories, genealogical works, essays, poetry, fiction, sermons, files of periodicals, statistics, maps, broadsides, the catalogues, minutes, proceedings and reports of educational bodies and institutions, fraternal orders, commercial, professional, philanthropic, religious, social, patriotic and scientific organizations, as complete files of Southern newspapers as can be secured, as well as files of papers from other sections which

carry Southern material. Nor will it be confined to printed material. It will include great masses of manuscript material, such as diaries, unpublished reminiscences or other autobiographical writings, letters of every description, plantation records and the ledgers and other records of industrial and business undertakings. It will contain not only papers and letters of prominent individuals and families but all kinds of records which reveal the life and thought of the masses of the people.”⁶⁰

⁶⁰ *Baltimore Evening Sun*, March 4, 1928

CHAPTER XV

TYPES OF METHOD: THE CASE

Records and the Case. The case study as a technique for presenting data is one of the oldest methods as well as one of the most important. That it is sometimes considered of recent origin is due possibly to the fact that the term "case history" or "case study" has been but recently applied to this method. And even now early literature, used largely for analogical and illustrative purposes, is infrequently thought of as case studies. Yet it is in this mythological and fictitious material—fables, allegories, dreams, the Greek tragedy, epics, and narratives of many kinds—with its predominantly moral and philosophical character, that the roots of the case method are buried. The form and purpose of these primitive concepts, and even their subjectivity, do not detract from their value as case material, but they are just as clearly case studies, even if less scientific, as are later and more authentic historical and biographical accounts¹. From the historical approach and data the pioneer in case study may find considerable material from which to interpret his "cases" of social experience. In fact, the earliest applications of the case method to social research were the historians' descriptive accounts of peoples and nations, followed later by detailed studies of smaller groups, factions, and individuals. Case studies of contemporary groups and individuals were a later development². In the study of modern society with its complex factors remoteness promotes objectivity, while it is sometimes well-nigh impossible to study a present-day social unit in its entirety and with a minimum of subjectivity. However, the technique of the case history is being developed and perfected, and is being applied increasingly to the study of contemporary society by specialists in all the social sciences. Whether the unit for a case study shall be a group

¹ Cf L L Bernard, "The Development of Methods in Sociology," *The Monist*, XXXVIII, 307-308

² *Ibid*

or an individual, or merely one episode in a person's life—such as a case in law or in medicine—is determined by the interest of the specialist making the study as well as by the purpose of that particular piece of research

"The range of case studies in the social domain is as wide as human interests, its continuity is as prolonged as human history," writes *Franklin H. Giddings*. "The case under investigation may be one human individual only or only an episode in his life, or it might conceivably be a nation or an empire, or an epoch of history. The cases with which social workers are apt to be concerned are individuals, families, neighborhoods and communities. The cases in which ethnologists, historians, and statesmen are apt to be interested are non-civilized tribes, culture areas, historical epochs and politically organized populations. Demographers are concerned with the evolution and degeneration of populations in respect of their biological and psychological quality, and of their vitality."³ *Clifford R. Shaw* defines the scope of a case study as "an individual, an institution, a community, or any group considered as a unit for study,"⁴ while "to take account of all aspects of one thing or situation" is the function of the case method according to *Stuart A. Rice*.⁵

Underlying Principles. A case is a particular one of a kind or a species, which may be considered a basic unit for study. Cases are counted and measured, they are compared, their characteristics are studied, their behavior noted. This holds for both physical and social phenomena. And each unit, despite its apparent simplicity, when carefully studied and analyzed, is found to be an aggregate.⁶ At one time the molecule was believed to be indivisible—the simplest form of matter. But it was later discovered to be an aggregate composed of atoms. And now electrons are known to be the components of atoms, and it may yet be discovered that electrons are further divisible. So also in the social realm. Humanity is composed of various races or peoples, which in turn are divided into nations, and nations into a number of groups—social, political, economic, religious, ethnic, etc. And each of these groups is composed of individuals who, although they may be considered the basic units in society, are also in the last anal-

³ *The Scientific Study of Human Society*, p. 95.

⁴ "Case Study Method," *Publications of the American Sociological Society*, XXI, 149.

⁵ *Quantitative Methods in Politics*, p. 35.

⁶ *Giddings, The Scientific Study of Human Society*, p. 91.

ysis aggregates of a number of component parts, each one of which acts and is acted upon by every other component part of the individual.⁷ Furthermore, since every individual is not a Robinson Crusoe, he is constantly in contact with other individuals—in the family, the neighborhood, the school, the church, industry, the state, and many other groups with which he may be affiliated. So too, groups are closely interwoven, especially since the same individual is a member of many groups, institutions develop side by side, peoples grow up and merge, and there is close intercourse between political states. This complexity of relationships demands modifications and adjustments among individuals and groups. And it is this intricate structure which is termed society. The relationships which bind society together include a number of forces and interests. Man is the product of his biological and social heritage, developed and modified by innumerable physical and psychical environmental factors. And the factors affecting the individual are carried over into the group, since the individual is a component part of the group. Therefore to make a comprehensive study of any individual, group, or institution, a method must be applied which can be used with equal success by the economist, the psychologist, the anthropologist, the political scientist, the historian, and the sociologist. Such a technique is the case method by which each individual factor, whether it be an institution, a community, a neighborhood, a family, an individual, or just one episode in the life of an individual or a group, is analyzed in its relationship to every other factor in the group.

According to *Clifford R. Shaw*, "Case study method emphasizes the total situation or combination of factors, the description of the process or sequence of events in which the behavior occurs, the study of individual behavior in its total social setting, and the analyses and comparison of cases leading to formulation of hypotheses."⁸ *Giddings* also emphasizes that by the case method we "ascertain as completely as we can the number and variety of traits, qualities, habits, or what not, combined in a particular instance."⁹ And again, as *Stuart A. Queen* says, the case method

⁷ Cf. Rice, *Quantitative Methods in Politics*, pp. 39-40.

⁸ "Case Study Method," *Publications of the American Sociological Society*, XXI,

is the examination of "single situations, persons, groups, or institutions as complex wholes in order to identify types and processes"¹⁰ Emory S. Bogardus describes it as "the method of examining specifically and in detail a given social situation, it penetrates the interesting personal experiences of all the individuals involved, and out of these experiences, it arrives at an understanding of the various stimuli and responses that have functioned"¹¹ Therefore, the case history provides a method to study the processes of interaction or association by showing how various physical, mental, and economic conditions and events may affect, as well as identify, relationships.¹²

Case Study versus Case Work. The terms *case study* and *case work* are apt to be used interchangeably. Such confusion is possibly due to the fact that this method lends itself better than any other to the assembling and presentation of the data which the social worker needs in the treatment of the maladjusted and as such has become part of the equipment of the efficient social worker. It was through case work, too, that this method received an added stimulus and revival and became, as it were, popularized. For although, as has been pointed out, this technique has its roots not only in history but even in folk records and myth, it is only recently that an historian, for example, might term his findings a case study, or a biographer admit that he had written a case history. Nevertheless, the careful student must never fail to distinguish between case work and case study. The two are closely related and frequently complementary, but they are never identical. A case study must be made before adequate case work can be done¹³. Case study implies gathering and assembling data, while from these data case work makes a diagnosis, prescribes treatment, and uses all available means to put the treatment into operation. In other words, the case worker makes a practical application of all findings, while the research specialist presents findings but is unconcerned with the application, leaving that to the social worker, the legislator, the reformer, and others.

¹⁰ "Round Table on the Case-Study Method of Sociological Research," *Publications of the American Sociological Society*, XXII, 226.

¹¹ *Making Social Science Studies*, p. 50.

¹² Stuart A. Queen, "Some Possible Sociological Uses of the Case-Work Method," *Journal of Applied Sociology*, XI, 322-326.

¹³ Cf. Giddings, *The Scientific Study of Human Society*, p. 94.

Social case work has been spoken of as a "direct service to particular persons"¹⁴ F. Stuart Chapin outlines the objectives of case work when he says that "case work supplies a technique for an intensive and many-sided study of the *individual*. Social case workers use the term 'case work' to embrace more than the investigative procedure of studying individuals, they mean by case work a process which includes besides investigation, diagnosis of a social situation, and treatment"¹⁵ Case work to be effective requires knowledge because it should be based on facts. The preliminary task of securing the material, assembling it, and understanding it is case study, and must precede prescribing and administering treatment for the improvement of the "case"¹⁶ Accordingly this "differential treatment of the human personality in misfortune" is dependent upon "an intensive and many-sided study of the individual" especially in his social relationships¹⁷

Characteristics of the Case Method. Since the case method implies a comprehensive and intensive study of the subject, one of the first requisites is thoroughness. Facts must be ascertained and interpreted. Facts are obtained from documents, from the individual, from members of the group, or from anyone who may have any knowledge relative to the study under investigation. From this it can be seen how carefully all evidence must be weighed, tested, and sifted to eliminate fictitious and false statements, and as far as possible, rationalizations. It is hardly conceivable that the case study can ever be made wholly objective, for in the very nature of it is inherent a certain subjectivity, not only on the part of those from whom the data are obtained but also in the interpretations of the research specialist. However, such subjectivity can be reduced to a minimum if the investigator approaches the problem in a scientific way. Thoroughness also implies that every phase of the problem must be studied and that it must be approached from every possible angle. Even when the problem consists of merely one episode in a person's life, everything, whether it be a tangible, measurable factor or an intangible, immeasurable quality, and whether it bear directly or indirectly on the problem, must be noted and recorded by the investigator. For this reason,

¹⁴ Queen, "Round Table on the Case-Study of Sociological Research," *Publications of the American Sociological Society*, XXII, 226

¹⁵ *Field Work and Social Research*, p. 73

¹⁶ Giddings, *The Scientific Study of Human Society*, p. 94

¹⁷ Chapin, *Field Work and Social Research*, pp. 73-75

the conscientious and tireless worker with good intelligence often makes a more successful student of cases than the brilliant and unmethodical one.¹⁸

The form of the case study or case history is narrative. Accurate description, therefore, is one of its essentials. The task has not been completed when the observation has been made and noted, but it must be described clearly and concisely, and in as objective terms as possible. "Writing up" a case history is as important as writing up a laboratory experiment. Facts and circumstances having no bearing on the case should be omitted, yet great caution must be exercised that nothing significant which might by any chance modify the conclusions or assist in the interpretation be overlooked. There should be a logical sequence, as well as continuity and coherence throughout the entire narrative. Although the language should be simple, technical terminology which has become generally accepted is not only permissible but preferable, since this will facilitate the legitimate comparison of cases and the subsequent formulation of hypotheses. Although there is a tacit assumption that every case is unique, that there never has been nor ever could be another case exactly like it, yet it may be presumed that there are points of similarity as well as of difference. And if the case under investigation is like others in many respects then "a certain norm, or 'usual' complex of factors can be ascertained."¹⁹ Unless there is some uniformity in recording it is often exceedingly difficult to see such likenesses, and much of the usefulness of the case method, as well as its scientific value, would be eliminated. Quantitative data or qualitative data which may be converted into quantitative terms²⁰ may also be discovered more readily if the findings are described accurately and the measure determined.²¹

The Range and Objectives. Since case study is a process of intensive investigation often extending over a long period of time, its very nature precludes superficiality. To convey adequately this concept of long-time study certain types of case studies are known as case histories, especially when it is a study of an individual or a family made by a specialist for the purpose of studying

¹⁸ Giddings, *The Scientific Study of Human Society*, pp. 95-96.

¹⁹ *Ibid.*, p. 96.

²⁰ Cf. Charles E. Gehlke, "The Use and Limitations of Statistics," *Publications of the American Sociological Society*, XXI, 142.

²¹ Giddings, *The Scientific Study of Human Society*, p. 96. Cf. Robert E. Chaddock, *Principles and Methods of Statistics*, pp. 27, 28.

some phase of maladjustment, whether physical, mental, economic, or social. The term "study" is the more inclusive and when prefixed by the word "case" implies a comprehensive investigation. The time element is of necessity involved in a case study for even though a present situation is the object of study, the complexity of factors involved necessitates studying changes and developments over a period of years as well as seeking origins and beginnings.²² The nature and objectives of the problem will determine largely whether the student will be able to gather his data quickly from documents and witnesses or whether he will find himself face to face with a situation which requires his keeping his own records over a period of years.

Case study also presumes a well-defined problem. That is, an intensive study is made of a certain person, a particular community, a definite situation or episode, an economic or a social institution, etc. This, of course, does not preclude the possibility of a case study's consisting of a number and a combination of case studies. For example, any adequate case study of a family would include case studies of each member of the family in his relations to every other member of the family, and the entire picture would be the case study of that family. Again, a case study of a community might include case studies of a number of prominent men and women—leaders in that community—as well as case studies of some of its dominant institutions. Or case studies of similar occurrences over a widely scattered territory may be made and the whole combined to form a composite study as for instance an investigation of certain types of crime, of mob violence, or a number of social experiments.²³ But in every problem the unit must be carefully defined and selected, and the study should be more than a cross section picture.

The case method suggests rather informal procedure. Any attempt to gather material for a case study by means of a set schedule or questionnaire misses, by a wide margin, and ignores one of the most important, if not the most important, factors in this method.²⁴ As was suggested earlier, some data of a quanti-

²² Emory S. Bogardus, *The New Social Research*, ch. III.

²³ Cf. Bernard, "The Development of Methods in Sociology," *The Monist*, XXXVIII, 313.

²⁴ Cf. Read Bain, "An Attitude on Attitude Research," *American Journal of Sociology*, XXXIII, 940-957.

tative nature may be secured through this method but such data usually result from making comparisons of a great number of similar cases. The most distinguishing characteristic of the case method is its application to the securing of qualitative data,—those intangible, immeasurable qualities so important in any evaluation of the social process and as indices to social forces. "Robert M. MacIver has said that the end of social research is not a quantitative thing, that the things in which social sciences are ultimately interested—such as happiness—cannot be added."²⁵ Emory S. Bogardus maintains that "a fruitful method of social research is that which seeks *personal experiences*," and it is from personal experiences that we may secure the facts and their interpretation that result in social conflicts.²⁶ The importance of the case method in ascertaining attitudes is further emphasized by Read Bain,²⁷ while Ernest W. Burgess sees in it a valuable means for securing some appreciation of social influences as well as ascertaining indices to social forces, and a key to the study of personality.²⁸

Scientific Validity of the Case Method. William F. Ogburn and Alexander Goldenweiser make the statement that "the 'scientific' future of the social sciences depends upon their amenability to statistical methods."²⁹ If this is true, how does the case method measure up as a scientific approach, especially since its major emphasis is upon qualitative data rather than upon quantitative? But Ogburn and Goldenweiser say further, "There will always be room in the social sciences, however, for the purely analytical, interpretative, and valuational approaches, for these sciences deal with man, a subjective and capricious creature, and with historic facts, which in their very nature evade complete schematization."³⁰ And it is here that the case method finds its justification, for it is the method best adapted to this type of research. Although attempts are made to ascertain attitudes by means of schedules and

²⁵ Elinor Blackman, "Some Tests for the Evaluation of Case Methods," *The Family*, VI, 136-137.

²⁶ "Personal Experience and Social Research," *Journal of Applied Sociology*, VIII, 294-303.

²⁷ "The Impersonal Confession and Social Research," *Journal of Applied Sociology*, IX, 360-361.

²⁸ "The Study of the Delinquent as a Person," *American Journal of Sociology*, XXVIII, 661-663, 679-680.

²⁹ *The Social Sciences and Their Interrelations*, p. 9.

³⁰ *Ibid.* See, for instance, H. W. Odum's *Rainbow Round My Shoulder* and *Wings on My Feet* as non-technical case portraiture of a Negro in work and wanderings and at war.

questionnaires, the results are highly unsatisfactory, since one cannot do justice to an attitude by means of a mere "yes" or "no" or a check mark. However, there are obvious dangers inherent in an approach which seeks deliberately data of this nature. Not only must unusual care be exercised in securing the information, but equal caution must be used in recording it and especially in the interpretation. Qualitative data should be recorded as objectively as possible, otherwise it will be very difficult to make any sort of fair interpretation. And even when every precaution has been taken and all the preliminary work done well, bias creeps into the interpretation very easily. Such prejudice may be due to rationalization on the part of the subject investigated, or it may be some personal bias on the part of the person making the study. It has been maintained that the subjective element can never be entirely eliminated from this method, but there is no doubt that it can be minimized, and the research student must employ every safeguard to keep it at a minimum. Personal bias is present not only when one is securing contemporary data through personal interviews but can be just as evident when one is using documentary sources. It is quite as easy to minimize certain data and to magnify others or to overlook certain vital information when one is seeking an interpretation of historical facts as it is to fail to notice an expression or a gesture or to make light or much of it, or to forget to record a significant detail of the personal interview.

In discussing the difficulties of the case method, *Bogardus* mentions objectivity as one of the main problems.³¹ He says, "Two difficulties at once arise first the effort which persons unintentionally make in remembering past experiences, and second, the reticence that persons feel about disclosing many important personal experiences." There is also the danger of rationalization due sometimes to partial knowledge of causes or more often to our own explanations or interpretations. In discussing the "impersonal confession" as a form of case method, *Read Bain* refers to rationalization as one of its very definite limitations,—the fact that the confessant wants to paint as "pretty a picture" of himself as possible.³² *Giddings* cautions those who are working more or less constantly with abnormal

³¹ "Personal Experiences and Social Research," *Journal of Applied Sociology*, VIII, 294-303.

³² "The Impersonal Confession and Social Research," *Journal of Applied Sociology*, IX, 356-361.

and subnormal phenomena to "keep in touch with researches that are being carried on in the study of normal social and societal evolution, and to familiarize themselves with attested results" in order that their thinking may not get "off side"³³ "We must use our scientific imagination to seek explanations and our sympathetic imagination to preserve understanding," warns *Chapin*, while he asserts further that "true scientific objectivity comes when qualitative terms are reduced to the quantitative"³⁴ *Frederick J. Teggart* makes the following points with reference to bias in the use of documentary sources in historical research. The results of the historian are conditioned by the records which have been preserved, by the point of view of his own time, by the requirements of the "narrative" as art, by the relation of documents to other statements and facts, and by the historian's own emphasis and interpretation³⁵ Nevertheless, *Ernest W. Burgess* supports the scientific validity of the case method, and quotes from *Karl Pearson*, who says, "The man who classifies facts of any kind whatever, who sees their mutual relations and describes their sequences, is applying the scientific method and is a man of science" *Burgess* continues, "There is certainly nothing in this definition to exclude the case-study method from scientific procedure, provided that it involves classification, perception of relationships, and description of sequences," and therefore concludes "that the possibilities are open to the case-study method to develop its technique in conformity with the requirements of science"³⁶

Relation to Disciplines and Other Methods. There is not a discipline in the social sciences which does not find it necessary to apply the case method in some of its research problems. As a scientific method it was introduced to the social sciences through history³⁷ and is now employed with equal success by the anthropologist in his study of primitive peoples, of culture traits and their diffusion, of the origin and evolution of institutions, by the biologist and psychologist in their studies of the influence of heredity and mental and physical environment, by the economist in his studies of economic institutions and cycles, by the political-scientist in his study of the development of political organization, and by the sociologist in his varying studies of the complexities

³³ *The Scientific Study of Human Society*, pp. 97-98

³⁴ "The Relation of Sociology and Social Case Work," *National Conference of Social Work*, 1919, pp. 359-362

³⁵ *Theory of History*, pp. 32, 48-50, 66-68

³⁶ "Statistics and Case Studies," *Sociology and Social Research*, XII, 117, 120

³⁷ Cf. *Rice, Quantitative Methods in Politics*, p. 36.

of society and social life A method of such wide and general usage and of such far-reaching significance in research must meet the tests of a scientific technique if it is to retain its place, and it must therefore be made scientific without doubt and without reservation Scientific validity must be given to this method by submitting the data of a great number of similar cases to statistical analysis and in this way meeting the test of science that it must be amenable to statistical methods³⁸ Qualitative data are frequently convertible into quantitative and can then be measured objectively The research student must, therefore, whenever possible convert his purely descriptive subjective terminology into objective quantitative measures, and then apply statistical analysis in discussing correlations, indicating trends and tendencies, and formulating hypotheses

"What is qualitative today may be quantitative tomorrow," states *Charles E Gehlke*, "A 'high pitched' tone becomes a certain number of vibrations per second, a 'color' becomes a position on a spectrum scale, a 'bright child' has a high I Q , the United States is a 'rich country'—its inhabitants had an average income of \$335 per capita in 1914 Such transformations of qualitative description into quantitative forms increase both the exactness and the brevity of the description They are 'minimal statements of fact'"³⁹ The case method and the statistical method are "not opposed to each other, nor is one a substitute for the other,⁴⁰ they "are supplementary, not antithetical"⁴¹ By means of the case method, detailed analysis of a sufficient number of similar cases is made, and then "we follow the distribution of a particular trait, quality, habit or other phenomenon as far as we can go" in these cases by the application of statistics⁴² This application of statistics to data assembled by means of the case method may be expressed as making most of the subjective phases of human experiences objective, and then obtaining from these "averages, variations, and relations", developing "helpful standards, scales of measurement, and score sheets", thus giving to such data "a richness of meaning hitherto

³⁸ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p 9.

³⁹ "The Use and Limitations of Statistics in Sociological Research," *Publications of the American Sociological Society*, XXI, 142

⁴⁰ George A Lundberg, "Case Work and Statistical Methods," *Social Forces*, V, 61-65 Cf. Burgess, "Statistics and Case Studies," *Sociology and Social Research*, XII, 120

⁴¹ Bernard, "The Developments of Method in Sociology," *The Monist*, XXXVIII,

³¹¹

⁴² Giddings, *The Scientific Study of Human Society*, p 93.

unknown to them”⁴³ George A Lundberg considers the case method merely a first step in scientific method and that individual cases attain scientific significance only when “classified and summarized in such form as to reveal uniformities, types, and patterns of behavior, and that the statistical method is the best, if not the only, scientific method of classifying and summarizing large numbers of cases”⁴⁴ Bernard illustrates the supplementary character of the case and the statistical methods by saying, “that the case analysis best gives a concrete understanding of a specific situation, while statistics is a conceptualizing device to enable one to see several situations together and under the same common denominator”⁴⁵

Qualitative Interpretation. But in the zeal to be scientific one must never lose sight of the fact that there is and always will be qualitative data which cannot be measured quantitatively. And although cases are similar, cases of certain types are unique and to try to make statistical comparisons and correlations, not only leads to false assumptions and wrong conclusions, but can be carried to the point of absurdity. This does not of itself invalidate the data or label the method as unscientific. Even among the physical sciences there are excellent examples of non-quantitative sciences, such as geology, certain phases of chemistry, and large sections of zoology and botany.⁴⁶ Yet these disciplines are accorded equal rank with the other physical sciences, and their methods accepted as wholly in accord with the spirit of scientific research.

Stuart A Rice emphasizes the fact that each event in history is “unique,” for, contrary to the generally accepted idea, history does not repeat itself.⁴⁷ And thus it is with many phases of human society. “In the social sciences we have structural analysis of economic and social institutions, such as the factory and the family, which are in general non-quantitative. The same applies to political forms. There is no mathematical formula possible to describe the functioning of the United States government.”⁴⁸ And many examples might be cited.

⁴³ Bogardus, “Personal Experiences and Social Research,” *Journal of Applied Sociology*, VIII, 294-303.

⁴⁴ “Case Work and Statistical Method,” *Social Forces*, V, 61-65.

⁴⁵ “The Development of Methods in Sociology,” *The Monist*, XXXVIII, 310.

⁴⁶ Gehlke, “The Use and Limitations of Statistics in Sociological Research,” *Publications of the American Sociological Society*, XXI, 142.

⁴⁷ *Quantitative Methods in Politics*, p. 38.

⁴⁸ Gehlke, “The Use and Limitations of Statistics in Sociological Research,” *Publications of the American Sociological Society*, XXI, 142.

Classification and Technique of Cases. There are numerous classifications and divisions of case studies according to content, purpose, scope, method, and interest Giddings' summary, cited on page 230, adequately illustrates this point for he considers the case history from the point of interest and purpose as well as from content and scope Many other classifications and groupings might be made, in greater or less detail, and cases distinguished as a case history, a community case history, a life history, a community life history, the impersonal confession,—to mention just a few of the many well-known types So closely related are these various kinds of case studies that it is impossible, for all practical purposes, to draw clear-cut distinctions between a case study, a case history, and a life history of an individual, and the same might be said of a community case history and a community life history The distinction might be made on the ground that the case history is the more inclusive term, in that a number of interrelated life histories combine to form a case history, whereas the reverse could hardly be said to be true It is also sometimes held that the case history emphasizes problems while the life history stresses attitudes

According to *Bogardus*, "The life history differs from the case history which the social worker secures in that the latter stresses the 'individual,' and his problems, while the former emphasizes the 'person' in his development out of various communal situations and stimuli, explains how the person has lost status, and may indicate how the person may regain a zest in life "⁴⁹ Following the same line of thought, *Ernest T Krueger* says of the life-history document, "It is introspective and reflective, revealing the inner, private life in terms of the fundamental motives or attitudes and the social situations which call these attitudes into existence "⁵⁰ *Bogardus* would also distinguish between the life history and an ordinary autobiography since the life history "gives the natural history of a person," and also since these two types of case study are written with entirely different purposes in mind The autobiography is more formal and likely to contain data that are more or less objective while the life history deals more largely with subjective data—personal experiences and one's reactions to definite situations ⁵¹ He defines personality

⁴⁹ *The New Social Research*, ch vi

⁵⁰ "The Value of Life History Documents for Social Research," *Journal of Applied Sociology*, IX, 196-201

⁵¹ *The New Social Research*, ch vi

research as "an intensive boring-in process Heavy layers of defense reactions, and of 'too-personal-to-tell' factors must be penetrated No complete personal life history has ever been written. Some things are bound to be withheld "⁵² On the other hand, *Burgess* maintains that the case history of the individual should contain, (1) the genetic background including ancestry, ante-natal life, childhood development, illnesses and injuries, social experiences, and (2) mental life These "lead to a valuable understanding of the individual and to some idea of that wonderful complex of results which we term 'personality'"⁵³ *Jesse F. Steiner* has given us recently twenty excellent community life histories⁵⁴ while *Walter W. Pettit* presents a series of five case studies of community organization⁵⁵ A rather unique classification of cases is that of *Giddings* "Any case whatsoever is either fortuitous or historical The fortuitous case is accidental or occasional . Often it is generative. That is to say, at the moment when it comes under observation the complicated phenomena which it presents are arising and beginning an evolution which may go on indefinitely The historical case already when we encounter it 'has a past'"⁵⁶ These two types of cases are complementary, the two presenting complete pictures of the origin and development of our social activities and relationships The "impersonal confession" as described by *Read Bain*, is regarded by some exponents of the case method as a valuable type under this method, for social research⁵⁷

The Case Method and Special Social Problems. Two of the major "methods" in social research which lend themselves especially to extension in application and to increasingly scientific precision are the case method and the survey method, as outlined here and in Chapter XVI It is pointed out that the survey method may be utilized in brilliant "quantitative formulation" of pattern surveys and those measuring "societal energies," and especially as these apply to the special illustrative problems of this volume. The opportunity is equally notable for the case method.

⁵² *A History of Social Thought*, p 623

⁵³ "The Study of the Delinquent as a Person," *American Journal of Sociology*, XXVIII, 679-680

⁵⁴ *The American Community in Action* Cf *Bogardus*, "Community Life Histories," *Journal of Applied Sociology*, XI, 370-378

⁵⁵ *Case Studies in Community Organization*

⁵⁶ *The Scientific Study of Human Society*, p 99

⁵⁷ "The Impersonal Confession and Social Research," *Journal of Applied Sociology*, IX, 356-361

Keeping in mind again Franklin H. Giddings' standard that the range of case study is as wide as human interests, we immediately challenge the case method to achieve scientific results in studies of war, population, the family, regional situations, international relations, folk studies, industry and the other subdivisions of these main topics. Thus if the case under investigation be one "human individual only or only an episode in his life," we need more case studies of political, religious, and social leaders, of successful individuals and those who have failed under the seemingly same conditions of environment and heritage, of criminals and offenders of both white and Negro races, of Negro women whose life span ranges from the time of slavery to the present, to mention only a few. If the case be "a nation or an empire, or an epoch in history," there is manifestly opportunity to make such case studies of war and populations as have not yet been attempted, and the case method, in cooperative alignment with the survey and the statistical, may be applied brilliantly to the whole region, as for instance, the South, or the Far West, or New England, or others. But here it must be urged, the methods should be thorough or the studies should not be made. If again, the survey is a favorite one of social workers—individuals, families, neighborhoods, and communities—the regional field is particularly rich in opportunities. So, too, for the other units in the range suggested by Professor Giddings, the southern regional situations—and others as adapted to each fund of regional resources—is especially promising. Thus the "cases in which the ethnologists, historians, and statesmen are apt to be interested are non-civilized tribes, culture areas, historical epochs, and politically organized populations. Demographers are concerned with the evolution and degeneration of populations in respect of their biological and psychological quality, and of their vitality" ⁵⁸

⁵⁸ *The Scientific Study of Human Society*, p. 95.

CHAPTER XVI

TYPES OF METHOD: THE SURVEY

Early Development. All research, whether in the physical or social sciences, must be preceded by periods of observation and exploration, random and informal in their beginnings, but gradually assuming orderly and systematic method and procedure. The geologist observes an unusual rock formation and collects samples which he submits to further testing and comparison, the chemist notices a hitherto unobserved reaction of a particular compound and immediately begins exploring for a new element or a new combination of elements, the student of society believes the infant mortality rate abnormally high in a certain area, or marks the rapid development of the textile industry in a particular section simultaneously with a depression of the same industry in another section, and begins devising scales and measurements for checking up¹. In all cases it is the unusual, that which departs from the norm, that has attracted attention, while the usual, the customary, has passed by unnoticed. Likewise the research specialist or the social worker is more likely to attack those situations which involve a "problem" than those which proceed in an orderly fashion. It is not surprising, therefore, that the early formal, social explorations or surveys, which superseded casual observation, as well as many later inquiries, dealt mainly with pathological conditions.

It is difficult to date with exactness the introduction of the survey as an instrument of social research, but it probably came into being during the latter part of the nineteenth century when the scientific approach to humanitarian efforts first received emphasis. Prior to 1880 there was little social consciousness with corresponding neglect of harmful social conditions. But by 1880 public interest in social conditions in England was sufficiently aroused and this interest was stimulated largely through the press. In 1886, *Charles Booth* began his monumental work on

¹ Franklin H Giddings, *The Scientific Study of Human Society*, ch x. Also see Emory S. Bogardus, *The New Social Research*, p 19

the *Life and Labour of the People in London* which, however, was not published until 1891-1892. In the meantime, *William Booth's Darkest England and the Way Out* appeared in 1890, while on this side of the Atlantic *Jacob Riis* published *How the Other Half Lives*, a vivid portrayal of life in the East Side of New York City. These were impressionistic pictures rather than statistical studies, but succeeded in attracting wide interest. From 1900-1910 may be said to be the first decade of the social survey, which naturally was largely of the "muck-raking" variety, seeking out poverty, vice, and other abnormalities. There was, however, even during this period some constructive discussion of social problems, although the greater emphasis on constructive programs rather than on destructive criticisms belongs to the next decade. The department of surveys and exhibits of the Russell Sage Foundation, established in 1912 under the direction of Shelby M. Harrison, is largely responsible for the beginning of scientific surveys, and the survey of Springfield, Illinois, made in 1914 under the direction of Mr. Harrison, "stands as a model for investigations of its kind." Immediately prior to the War in 1914, the movement gathered momentum rapidly and many national organizations undertook surveys, while immediately following the War, the movement was picked up and continued. There were surveys of all types—religious, educational, recreational, industrial, crime and criminal justice. Although this later type of survey was better balanced than the first, it was still a survey with a purpose. But since 1920, the attempt has been made to make the survey a purely scientific study. Emphasis is now placed upon human resources rather than upon problems of social pathology, upon mental attitudes of people and especially those which condition their prejudices, the natural history of organizations, agencies, and groups, and an analysis of the forces that make for disorganization,² until the survey "has become the standardized *first step* for carrying on a scientific study of a wide variety of types of studies of social phenomena."³

The Social Survey. The term "survey" carries with it the idea of an official systematic examination of a definite unit with reference to specific properties or qualities. It differs from the systematic search or "exploration" in that it is "a larger undertaking," the latter being "at its best a careful sampling of a field, regional, temporal, dynamic, or what you will."⁴ Exploration

² This brief outline of the historical development of the survey is based largely on the material in Jesse F. Steiner's *Community Organization*, ch. xii, and lectures by the same author.

³ Manuel C. Elmer, *Technique of Social Surveys*, p. 14.

⁴ Giddings, *The Scientific Study of Human Society*, p. 183.

precedes survey and performs the initial task of sampling the field and preparing the way for the more comprehensive study which is to follow. The term "social survey" connotes any survey having social implications and social significance and that furnishes data for an interpretation of the social process, regardless of whether the unit examined be a nation, a community, a group, or an institution, or whether the dominant emphasis be religious, educational, economic, political, sociological, or a combination of one or all of these phases. And it is in this sense that "social survey" is used in this volume, and not with the meaning of a *sociological* survey, since each of these approaches is definitely social and since all must combine and unite in any comprehensive scientific study of society.⁵ Briefly, then, the social survey may be said to be an objective, quantitative approach to a study of the social process within a well-defined area at a given time, through one or more institutions, by means of the schedule and questionnaire, and the data thus assembled are treated statistically. Although this method is one of the most clearly defined methods of the social sciences with reference to method and procedure, yet it is probably one of the most variously interpreted.

Franklin H. Giddings, after referring to the survey as a larger undertaking than exploration, completes his concept of the survey by defining it as "a comprehensive examination of a field, a combination and total of explorations. It comprises enumerations, measurements, and precise determinations of metes and bounds."⁶ *Manuel C. Elmer* describes the survey as "the necessary first step toward measuring social attitudes, ideas, ideals and practices, and for making a scientific analysis and evaluation of group activities, their interrelationship and the resulting social processes,"⁷ while *Charles A. Ellwood* would limit it to "the observation and collection of facts regarding existing civilized communities."⁸ *Thomas J. Riley* interprets the social survey as "the social technologist's attempt to see things in perspective. It is his appreciation of the organic character of social facts. It is as yet his nearest approach to a doctrine of social forces."⁹ Developing this idea of a "doctrine of social

⁵ Cf. Carol Aronovici, *The Social Survey*, pp. 1-5.

⁶ *The Scientific Study of Human Society*, p. 184.

⁷ *Technique of Social Surveys*, p. 17.

⁸ "Scientific Methods of Studying Human Society," *Journal of Social Forces*, II, 330.

⁹ "Sociology and Social Surveys," *American Journal of Sociology*, XVI, 818-821.

forces," *John Daniels* states that the social survey is "a comprehensive study of social conditions and social forces"¹⁰ *Ernest W. Burgess* characterizes the social survey of a community as "the scientific study of its conditions and needs for the purpose of presenting a constructive program for social advance," and in its relation to social consciousness as "a method of social introspection checked up by the statistical measurements and the comparative standards of the social expert"¹¹ *Edmund deS Brunner* also emphasizes the scientific approach when he says, "A social survey is an attempt to assemble the relevant facts about a social situation—to approach the problems of human relations in the same objective spirit in which the chemist in his laboratory studies the relations of one element to another"¹² *Herman N Morse* also characterizes the survey as "a method of analysis in scientific and orderly form and for defined purposes of a given social situation or population"¹³ The pragmatic value of the social survey is also stressed by *Carol Aronovici* who defines it as "a stock taking of social factors that determine the conditions of a given community, whether that be a neighborhood, village, city, county, state or nation, with a view to providing adequate information necessary for the intelligent planning and carrying out of constructive and far-reaching social reforms"¹⁴ *Harold S Bucklin* considers the survey "a process of fact-finding and fact-telling"¹⁵ *F W Blackmar* and *J L Gillin* support *Paul U Kellogg* in his characterization of the social survey as "an application of the statistical method to a study of the social problems of a community confined within certain geographical limits"¹⁶ *Bogardus* defines a social survey as "a collecting of data concerning the living conditions in whole or part of the people of a given community"¹⁷ Finally, an examination of over three hundred titles listed in a bulletin of the Russell Sage Foundation on social surveys, "indicates that, however a survey is defined, it is essentially an investigation of social life in process, in a given area (as distinct from the study of an abstract subject), at a given time (as distinct from a historical review), of a given subject-field broad enough so that

¹⁰ "Social Survey, Its Reasons, Methods and Results," *Conference of Charity and Corrections*, 1910, pp 236-240

¹¹ "Social Survey—A Field for Constructive Service by Departments of Sociology," *American Journal of Sociology*, XXI, 492

¹² *Surveying Your Community*, p 13

¹³ *The Social Survey in Town and Country Areas*, p 104

¹⁴ *The Social Survey*, p 5

¹⁵ *A Social Survey of Sung-Ka-Hong*, p 6

¹⁶ *Outlines of Sociology*, pp 582-583 Cf Ellwood, "Scientific Methods of Studying Human Society," *Journal of Social Forces*, II, 330

¹⁷ *Introduction to Sociology*, p 396

each factor entering into it may be investigated inductively (as distinct from a piece of surface skimming), and also may be considered in relation to every other factor (as distinct from a single specialized investigation)."¹⁸

Objectives of the Social Survey. As shown by the chronological development of the survey, the major purpose of the earlier studies was the seeking out of social deficiencies and abnormalities, and it was not until after the World War that the constructive value in organization was emphasized "Prevention" not "cure" has become the watchword in this age of rapidly-growing, congested urban centers, of the phenomenal expansion of big business and ever closer competition, of the substitution of machine industry and its corollary increased leisure for the masses, and of the seeming failure of so many of the fundamental institutions of society to adjust to these changes No science can be built on guesses and estimates or on "wishful thinking,"¹⁹ but its value and authenticity, and its rank as a science are dependent upon a foundation of fact This desire to know the facts is apparent in practically every field of human endeavor The better organization of the United States Census, the appointment of committees and commissions for special investigations prior to the enactment of legislation, efficiency engineering in industry, business, and the location of trade centers, the collection and organization of specific data with reference to the public health, housing, public utilities, education, and religious welfare, give some idea of the transition that has occurred during the last decade²⁰ And whether the fact-gathering be as comprehensive as the United States Census or whether it be limited to a cotton-mill village, the survey becomes the objective, quantitative method for gathering the desired information

"The survey is applicable in any community which has need for it," write *Charles E. Martz* and *John A. Kinneman*. "Surveys have been made in urban and rural communities, from territory embracing institutions in an entire State to a territory of the size of a small school district, from communities in North

¹⁸ "Surveys and Surveys," *The Survey*, 35, pp. 613-614

¹⁹ Giddings, *The Scientific Study of Human Society*, p. 182

²⁰ Howard T. Lewis, *The Rural School and the Community*, pp. 19-25 Cf Aronovici, *The Social Survey*, pp. 1-9, also Edwin A. Kirkpatrick, *Fundamentals of Sociology*, pp. 215-231

America to districts in South Africa. In fact, the survey is applicable in any community where correct social data are desired.”²¹ *Shelby M. Harrison* cites as the important causal facts of the social survey “Important changes in the relationships between people, creating new community needs and problems, scientific advances that have made possible some measure of solution of the new problems, the present emphasis put upon socializing our knowledge, experience and service, the recognition that social problems are complex and often reach in many directions.”²² The survey as an aid in discovering and helping to solve the peculiar problems of each individual community is emphasized by *Bucklin* “The social survey gathers facts, it is an attempt to secure the facts on which a scientific attempt at community improvement must be based.”²³ Still another point of view may be had from the biologist *Charles B. Davenport* recommends the survey to give a complete picture of the community with respect to the number and kind of socially inadequate and socially maladjusted individuals. Surveys of this kind have been made but have usually taken only the first step—that of determining the percentage of the feeble-minded, epileptic, insane, and neurotic in the community. This, however, is not entirely to the point, “since what is required is to find out how many there are in the community whose behavior is opposed to the best development of the community.”²⁴ *Manuel C. Elmer* summarizes the objectives of the survey under six points: “Accurate data scientifically obtained, the securing of data which will be of use in meeting some local situation or temporary program, to serve as a basis for the formulation of a long-time program or making some fundamental change in the organization of the community, making an historical monograph of a community, a pathfinder study, as a preliminary to any kind of intensive research along a specific line, education of community leaders and establishment of purposeful cooperation between various groups.”²⁵

Characteristics of the Survey Method. Since the survey is a first step in scientific procedure, it must be able to stand the test of scientific method, for if the foundation is not laid properly then the entire structure will fall. In the first place, it is an inductive method—that is, it builds up from the particular to the general

²¹ *Social Science for Teachers*, pp. 249-255.

²² *Development of Social Surveys*, p. 345.

²³ *A Social Survey of Sung-Ka-Hong*, pp. 6-8.

²⁴ “Standard Methods in Research Surveys,” *National Conference of Social Work*, 1919, pp. 296-299.

²⁵ *Technique of Social Surveys*, p. 17.

Facts are assembled, classified, tabulated, compared, and generalizations and conclusions drawn from the results²⁶ In the second place, objectivity is the key to this method Data are gathered by means of a schedule or questionnaire, which should be so devised and arranged that there is practically no opportunity for subjectivity or exercising one's judgment or opinion on any point, either on the part of the surveyor or of the informant Nor should one attempt to secure qualitative data by this means, since, instead of ascertaining attitudes, one is likely to get nothing more than opinions²⁷ The data, therefore, must also be quantitative, or if qualitative, of such nature that they can be changed readily into measurable form Accordingly, making the schedule is one of the most important preliminary steps in this method, since the results are entirely dependent upon it The questions, "a survey of what" and "for what" should be asked and answered in the preliminary procedure,²⁸ for the form and contents of the schedule depend upon the nature of the survey For this reason, both the purpose or object of the survey and the problem to be studied must be carefully defined, in order that the schedule may embody an adequate analysis of the problem In addition, the area, scope, or extent of the survey must be sufficiently delimited²⁹

"The survey should have certain definite aims"³⁰ It should take into consideration the community as a whole, various groupings that have social significance—neighborhood, racial, cultural, fraternal, occupational—institutions and agencies present in the community, certain topical elements with particular significance such as health, education, religion, schools, recreation, industry and trade, and, finally, the individual³¹ Or "it may include all aspects of community life, or it may be limited to one or more divisions of the life of the community"³² "A community survey may take for its field a village, a city, a county, a state, a region or section, or a nation"³³ But, "whatever the

²⁶ Bucklin, *A Social Survey of Sung-Ka-Hong*, pp 6-8

²⁷ Cf Read Bain, "An Attitude on Attitude Research," *American Journal of Sociology*, XXXIII, 940-957

²⁸ Herman N Morse, *The Social Survey in Town and Country Areas*, pp 104-119.

²⁹ *Ibid*

³⁰ Martz and Kinneman, *Social Science for Teachers*, pp 249-255

³¹ Morse, *The Social Survey in Town and Country Areas*, pp 104-119

³² Ernest W Burgess, "Social Survey—A Field for Constructive Service by Departments of Sociology," *American Journal of Sociology*, XXI, 492-500

³³ Giddings, *The Scientific Study of Human Society*, p. 187.

scope of the survey, it should be definitely outlined at the beginning both as to character, extent and intensity,"³⁴ and "even though only a partial survey of a community is made, it should at least cover all phases of the activity which is being investigated and the details should be properly grouped and made to fit into the general scheme of a comprehensive survey"³⁵ There must be exactness and definiteness about the entire procedure, otherwise the results will be negative if not worthless Even the United States Census, that most comprehensive of all surveys, uses carefully printed population schedules to make clear its scope and to assure as great accuracy and uniformity as possible with its thousands of enumerators³⁶ Not only is accuracy in the original data essential, but "the fact that the survey method of investigation gives data sufficient to permit the law of averages to eliminate plus errors by the occurrences of similar minus errors"³⁷ adds to the reliability of this procedure That the survey measure up to these standards is especially important because it is not an end in itself and is of no value until the data have been submitted to statistical treatment, and the statistical results are no more accurate and dependable than the facts and figures upon which they are based "A survey must follow lines which are of a particular character, must be based upon ample and irrefutable facts, must be interpreted in the light of existing social conditions"³⁸

The Survey Method as a Scientific Approach. The questions are often raised, "Is the social survey scientific? Can it meet the test of scientific validity? Or again, should it be put to this test?" If the method possesses the characteristics as set forth in the preceding section—that is, if it is inductive, objective, quantitative, comparative, and if sufficient accurate data are collected, classified, and compared, so that trends and tendencies are indicated and generalizations deduced from the results—is not its claim to scientific validity assured? Several additional tests, however, might be required The question is sometimes asked as to whether the social survey, since it is dominated by a practical purpose, can be completely scientific?³⁹ The assumption that practical purpose or deduction, if combined

³⁴ Aronovici, *The Social Survey*, p 17

³⁵ Elmer, *Technique of Social Surveys*, p 24

³⁶ Cf F Stuart Chapin, *Field Work and Social Research*, ch vi

³⁷ W J Spillman, "Validity of the Survey Method of Research," *U S D A Bulletin No 529*, April, 1917, pp 14-15

³⁸ Aronovici, *The Social Survey*, p 17

³⁹ Thomas J Riley, "Sociology and Social Surveys," *American Journal of Sociology*, XVI, 818-833.

with induction or other proper processes, precludes scientific quality, has, of course, been exploded for some time (See also Chapters XX and XXIV) And again, since it is apparently limited in application by both time and place, and since it cannot and does not go into the historical development, is the survey a scientific method?⁴⁰

Gillin asserts that the survey method is a scientific approach for it "is a beginning at least of the measurement according to objective standards of social phenomena . the movement is one which deals with objective phenomena These can be counted and compared, which is the first requisite of scientific method"⁴¹ As to the scientific value of the social survey, Ellwood maintains that "only when this method is generalized and extended over large areas and through considerable lengths of time, as in the United States Census and in other collections of demographical and statistical material, that it becomes of high scientific value When our survey of social facts is wide enough it reveals great trends in human behavior which laboratory methods could scarcely discover Moreover, it is a general scientific principle that the scientific value of a fact is usually in proportion to its nearness to the scientific observer"⁴² To prove his thesis that this method is scientific, Carl C. Taylor uses the following characteristics of the survey Isolation of facts in the analysis of phenomena, classification of facts, correlation of facts, quantitative representation of facts He emphasizes the fact that "the social survey is not the only method of social investigation that is comparative and quantitative" But "it is the fact that the social survey is always comparative and always quantitative . that makes it a method of such great promise in the field of social research"⁴³ Giddings holds that the survey is evolving into a scientific method "Social and societal surveying has been a fad and an industry. It is becoming a scientific enterprise of improving quality. It is beginning to give us trustworthy and significant information"⁴⁴

Limitations. That the survey has value as a method of social research cannot, therefore, be questioned, although caution must

⁴⁰ C C Taylor, "The Social Survey and the Science of Sociology," *American Journal of Sociology*, XXV, 731-756

⁴¹ "The Application of the Social Survey to Small Communities," *American Journal of Sociology*, XVII, 647-648

⁴² "Scientific Methods of Studying Human Society," *Journal of Social Forces*, II, 330

⁴³ "The Social Survey and the Science of Sociology," *American Journal of Sociology*, XXV, 731-756

⁴⁴ *The Scientific Study of Human Society*, p 185

be exercised continually that it does not degenerate into merely a practical tool for putting on community programs. Although it exhibits definite advantages of a practical nature, even these can be made to serve the purpose of the research specialist as well as of the social expert. But despite its scientific and practical value, the social survey has certain limitations which should be recognized, taken into account, and guarded against as much as possible. Some of the earlier weaknesses have been eliminated, others have been controlled, and some are being overcome by making specific adaptations in particular studies, especially through a combination of techniques.⁴⁵

Surveys which enable those engaged in public or private work for social welfare to reduce duplication and waste of effort and resources when planning their work, collect and disseminate scattered information as a basis for intelligent community action, and make for civic betterment by calling attention to the maladjusted persons and the neglected sections of the community will "incidentally, and without doubt increasingly also, add to our knowledge of the nature and operation of the social forces."⁴⁶ In speaking of what he characterizes as "community self-study under expert direction," Ernest W. Burgess says, "The fundamental value of this type of survey lies in its organic relation to the community consciousness."⁴⁷ The social survey, too, by securing the cooperation of sociologist, political scientist, economist, historian, and psychologist, demonstrates the functional unity of social science.⁴⁸ That society is the laboratory of the social scientist must always be borne in mind in studying any of its many, varied, and complex phases. Although a survey may deal intensively with one phase, "no phase of community life can be studied scientifically without taking into consideration the general factors of its environment,"⁴⁹ writes Manuel C. Elmer. Through a social survey, "a community can discover its disintegrating factors and work out plans of prevention and discover how to increase the efficiency of the operation of its constructive factors," comments Bogardus. But he regards as more important the fact that, "upon the basis of extensive social data, sound and far-reaching principles of social advance can be determined."⁵⁰ However, "there is danger that the making

⁴⁵ Cf. Emory S. Bogardus, *The New Social Research*.

⁴⁶ Harold S. Bucklin, *A Social Survey of Sung-Ka-Hong*, pp. 6-8.

⁴⁷ "Social Survey—A Field for Constructive Service by Departments of Sociology," *American Journal of Sociology*, XXI, 492-500.

⁴⁸ *Ibid.*

⁴⁹ *Technique of Social Surveys*, p. 25.

⁵⁰ *Introduction to Sociology*, p. 396.

of social surveys may become a fad and degenerate into dilettantism. There is great need of a standardization of methods and a perfecting of technique which will preserve the good in social surveying,"⁵¹ write *Blackmar* and *Gillin*. *Thomas J. Riley* raises several pertinent questions "Is it possible to take an account of the social interests of a community in terms of general living and working conditions and to work out a program of betterment from such an inventory, if the fundamental proposition is true that the social forces are the desires of men, or that the vital principle of society is psychical force? Is there not some danger of overlooking the factor of heredity, and especially the principles of eugenics, in the prominence given to the environmental factor? Can the social survey, which is essentially static, be made to function through a long period of time?"⁵² And most of the criticisms of the survey method are along these lines. *Gillin* says of the survey, "it has failed to take account of those elusive, spiritual facts of the social life which are of greatest importance and hardest to bring under the control of objective methods of treatment"⁵³ *Ellwood* writes that "the social survey, as thus far developed, has failed to find methods of getting at 'community traditions'"⁵⁴ *Giddings* takes this same point of view, especially with reference to the kind of data furnished "The religious surveys are ninety per cent or more religious. The educational surveys are ninety-five per cent technically educational. The trade and industrial surveys are ninety-nine per cent technically economic. Even the surveys of living conditions, working conditions, family incomes and family budgets, which would be better worth-while if, without being less economic, they were more sociological, have so far contributed little to social or societal psychology, to our knowledge of folk-ways, or of cultural conflicts, or to our understanding of the variability of leadership, of organization, or of status"⁵⁵ The importance of studies of social processes is also emphasized by *Ellwood*. "For one thing social surveys need to become more a study of processes, movements, and tendencies in community life than they have yet become. Modern science is essentially a study of processes, and it is only by understanding tendencies that we can hope to exercise scientific control"⁵⁶ *Blackmar* and

⁵¹ *Outlines of Sociology*, pp. 582-583

⁵² "Sociology and Social Surveys," *American Journal of Sociology*, XVI, 831-833

⁵³ "The Application of the Social Survey to Small Communities," *American Journal of Sociology*, XVII, 647-648

⁵⁴ "Social Facts and Scientific Social Work," *The Survey*, 40, p. 286

⁵⁵ *The Scientific Study of Human Society*, pp. 185-186

⁵⁶ "Social Facts and Scientific Social Work," *The Survey*, 40, p. 286 Cf. *Thomas J. Riley*, "Sociology and Social Surveys," *American Journal of Sociology*, XVI, 831-833

Gillin sum up thus "Its (the survey) application to certain problems in connection with all kinds of institutions will prove beneficial, but to try to bend all kinds of social phenomena to its stiff and undeveloped methods is to distort the facts out of all semblance to reality and make them the instrument of error rather than of truth "⁵⁷

The Survey Method versus the Case Method. It has been observed that most of the criticisms of the survey method refer to its inadaptability to secure qualitative data, while the criticisms of the case method were reversed. This does not mean that these two methods are hostile to each other but rather that they are complementary and supplementary. As companion methods they have been and can be used to good effect. Not only do these two methods differ as to the nature of the data secured, but they differ as to the period of time each covers. The survey method may be said to deal with the present and possibly with the future, but not with the past, except where a survey of the same place or group is repeated at stated intervals, and then comparisons made to show trends and tendencies over a number of years.⁵⁸ But the purpose of the survey is to give primarily a cross-section picture, while the case study is presumably a long-time process. It is the case study that digs up origins and seeks out historical development, for it is here that the roots of attitudes are embedded. It is these qualitative data which furnish the source and background of the quantitative. Attempts are made from time to time to secure qualitative data, especially attitudes, through questionnaires and schedules, but they have been unsatisfactory, even as the application of these tools to the case method has yielded questionable results.⁵⁹

The survey is definite, precise, formal, it seeks everything in objective terms, its questions can be answered frequently by "yes" or "no," a number, or even a check mark. The simpler, the more objective it is, the easier become the tabulation, comparison, and interpretation of the results. The case method, on the other hand, is in its very essence informal and less precise, due to the nature of the information sought. This does not connote

⁵⁷ *Outlines of Sociology*, pp 582-583

⁵⁸ Cf Carl C Taylor, "The Social Survey and the Science of Sociology," *American Journal of Sociology*, XXV, 731-756

⁵⁹ Cf Read Bain, "An Attitude on Attitude Research," *American Journal of Sociology*, XXXIII, 731-756.

a careless, haphazard technique, for definite, orderly procedure characterizes the case method as well as any other scientific approach. But there is no definite set of questions or specific information to be secured since much qualitative data cannot be reduced to quantitative terms. In both methods the unit to be investigated is carefully defined, but a survey may be limited to certain phases of the unit while a case study presupposes a thorough examination of every phase. The survey is not complete until all data have been treated statistically, whereas much of the data collected by the case method is not amenable to statistical treatment. In fact, with certain types of cases nothing would be gained by statistical treatment.⁶⁰ This enumeration of outstanding differences in these two methods is sufficient to show how one may be used to supplement the other. For example, a survey of a cotton-mill village might show definite segregation of foremen and workers, while a survey of a neighboring village might indicate no such segregation. Case histories of foremen and workers would doubtless reveal the attitudes and their origin which brought about these situations and thus not only enhance the value of the survey but complete and round out the research and permit of adequate interpretation. The survey is the pathfinder while the case method becomes the instrument for intensive study.⁶¹ Recently these two methods have come to be so closely related in this way that some authorities consider the survey a form of case study.⁶² A combination of these two methods in the race relations survey on the Pacific Coast has been designated *The New Social Research*.⁶³

Types of Surveys. Surveys have been classified in a variety of ways. Of the many categories which have been devised, some are based upon the nature of the community, as for example, rural or urban, others upon subject matter, such as religious, industrial, social, educational, and still others upon scope, as general or partial. Innumerable subdivisions may be made of each of these. There is no unanimity in the matter nor is there any generally accepted classification, each writer making a classification suitable to his particular purpose. A few of the more unusual are given here.

The unique classification by *Giddings* should be read in detail since it offers an ideal which might well be the ultimate goal of

⁶⁰ Cf. Katharine Jocher, "Methods of Research in Studying the Family," *The Family*, IX, 85.

⁶¹ Cf. Elmer, *Technique of Social Surveys*, p. 17.

⁶² Cf. L. L. Bernard, "The Development of Methods in Sociology," *The Monist*, XXXVIII, 308-309.

⁶³ Bogardus, *The New Social Research*.

every survey "Surveys are of two fundamental types One is the pattern survey, the other is the variability survey The pattern survey maps and graphs form and action patterns, as they appear at a given moment The variability survey records changes in form and action patterns from time to time occurring, and, also, should if possible record changes in rates and ratios of change The variability survey presupposes pattern surveys, repeated at constant intervals" In his further elucidation of types of surveys *Giddings* criticizes the loose use of the terms "social" and "societal" surveys since they offer but meager sociological data and suggestions His social or societal survey "would discover, record, map, and graph phenomena that are social or societal in a strict instead of in a loose meaning of the words" which would include behavior, folkways, culture conflicts, class and group struggles, and similar material much of which is as yet qualitative and not amenable to statistical measurement⁶⁴ *Murray Gross* classifies "scientific surveys" as (1) general social and civic surveys and (2) special subject surveys⁶⁵ According to *Manuel C Elmer*, a considerable amount of survey work has been done and standard survey technique adopted in the fields of health, religion, rural, educational, industrial, crime, special studies usually to meet some localized situation, extensive studies to obtain a basis for determining attitudes, and the analysis of social processes and evaluation of community activities, in the determination of which the formal survey is a necessary part But every conceivable type of social survey may be grouped into three general divisions: Investigations dealing with or relating to some particular phase of community life, the type of investigation which consists principally of historical and broadly descriptive monographs of communities, community studies which are more or less comprehensive in the scope of their inquiries, making an intensive study of several interrelated conditions and activities in the community and of their bearing upon each other⁶⁶ *Edmund deS Brunner* gives a very simple classification, naming three types of survey—the community, the topical, and the house-to-house canvass⁶⁷ *Herman N Morse* distinguishes five main types of rural social surveys, discursive testimonial surveys of a broadly defined general field, a reconnaissance of a defined area somewhat larger than a community, an anatomical or structural survey, an intensive case-method survey of a restricted local area, a topical or special

⁶⁴ *The Scientific Study of Human Society*, ch x

⁶⁵ "Survey as an Implement of Democracy," *National Municipal Review*, VII,

567-568

⁶⁶ *Technique of Social Surveys*, ch ii

⁶⁷ *Surveying Your Community*, p 14

subject survey defined both in area and scope⁶⁸ A type of survey of recent origin, but of growing importance, is the ecological survey, initiated and promoted by *Robert E. Park, Ernest W. Burgess, and Roderick D. McKenzie*,⁶⁹ at the University of Chicago. The ecological survey, in addition to "the biological, economic, and social aspects of competition and selection," emphasizes "the distributive and spatial aspects of these processes."⁷⁰ Ecological studies are of value in that they touch some of the more intimate problems of the community that have hitherto been overlooked.

The Survey Method and Special Social Problems. It has been a common assumption of this volume that the current development of social research would extend the present methods further into the study of larger and larger units of particular situations and that it would develop more scientific methods for the future. The application of the survey method to the special social problems used for illustration in this volume is an excellent example in point. Taking Franklin H. Giddings' high standard in which the survey will be extended to discover, record, map, and graph phenomena that are social or societal in a strict instead of a loose meaning of the word we come to make its application to many fields where as yet only qualitative data are assumed. These fields, according to Professor Giddings, will include a vast array of phenomena, behavior, folk-ways, culture conflict, class and group struggles.⁷¹ Here, then, is the setting for raising the scientific rating of the survey method and of extending it into more of the most urgent problems of the present time. For there have been no scientific surveys, of this sort at least, of war and population, and of regional and national cultures and conflicts. Manifestly they are much needed. It seems apparent, too, that there is sufficient precision, and perfection of methodology here to proceed at least gradually. And this sort of survey is especially needed and applicable to many of the southern regional problems listed in previous chapters and made a part of the basic illustration of the range of social research. There is also another peculiarly appropriate example for the extension and deepening of the survey.

⁶⁸ *Social Survey in Town and Country Areas*, pp. 97-99.

⁶⁹ *The City*

⁷⁰ *Ibid.*, p. 64

⁷¹ *The Scientific Study of Human Society*, ch. x

method in the regional situation, and that is the really scientific survey of the community, utilizing a more exhaustive analysis than has hitherto been attempted. Something of the specifications such an analysis has will be further set forth in the chapters dealing with the experimental method and with social analysis and the social denominator. In the meantime a recent example of this sort of study has been presented by Robert S. and Helen Merill Lynd in which "insight has been achieved by statistical and analytical studies of wide scope" and through a survey after "the manner of social Anthropology."⁷²

⁷² *Middletown A Study in Contemporary American Culture* See also the Introduction by Clark Wissler.

CHAPTER XVII

TYPES OF METHOD: THE EXPERIMENTAL

A number of important points previously emphasized as a part of the fabric of this *Introduction* may be particularly pertinent to our interpretation of the experimental method as applied to social research. One of these was the twofold concept of science as explanation and mastery through technique of discovery and experimentation. Closely related to this was the emphasis upon the very large contributions which the physical sciences have made to social situations and therefore the increasingly closer interrelationships between the physical and the social sciences, and the more effective functioning unity of all science. Nevertheless certain important differences between the physical and social sciences have been noted, among which is the facility of the physical sciences in the essential elements of controlled factors in experiment as contrasted with the extreme difficulty of control in social experimentation. Yet again, the social sciences ought to be able to profit more from the methods of the physical sciences than they have so far done. And one of the chief opportunities for such gain seems to lie in the domain of social experimentation, interpreted in the specific "scientific" sense of observation under controlled conditions, in the larger sense of mastery, adaptation, trial and error, and in its comprehensive aptitude for discovering new facts from incidence and by-products of social experimentation and social experience. This opportunity and challenge for discovery is again in harmony with a chief emphasis of this book upon the factor of initiative, inventiveness, and discovery of technique and method as well as of data, and upon a working interrelation of all methods and disciplines.

Invention and Experimentation. Concerning the technical aspects of experimentation in relation to physical laboratory work and in relation to the social sciences much will be said later. It is important to note here the tremendous range and sweep of the experimental method and process in that large border-line field of

activity covered by modern scientific invention and business development and their relation to social change, social institutions, and social customs. Here is a field combining both physical and mechanical invention, and the origins and development from them of an almost unlimited number of "pioneer" situations in social experience. Here, too, are the purely mechanical and the social-mechanical inventions as represented by electricity, physics, chemistry and medicine, biology, radio, engineering, and agriculture. On the one hand, there is experimentation unceasing, on the other, only beginnings. In Chapter III were listed many general evidences of the contributions of the physical sciences to the remaking of society and civilization and perhaps one hundred and fifty specific examples of invention and discovery from thirteen different fields, including medicine, biology, agriculture, chemistry, metals and mechanical devices, engineering, physics, electricity, radio, aviation, geology, safety devices, and many miscellaneous ones. A similar list of inventions and discovery in the detailed aspects of commerce and industry will reveal an even larger quantitative array of results which have come from experimentation, trial and error, practice and revision, trial and practice, and the continuing cycle. The same has been pointed out often with reference to such quantitative and epochal experiments as those of Burbank and others in the field of plant breeding and adaptation. What we wish to emphasize here is not simply the scientific validity and the successful results which come from experiment in which factors are controlled. This is all self-evident and accredited. It must be clear from the detailed examination of the scores of concrete inventions and discoveries in medicine, biology, chemistry and the others that the very heart of it all lies in controlled experiment and more controlled experiment. But what is often overlooked is the factor of the uncontrolled elements which enter often and largely into many of the processes through which the greatest discoveries are made. Trial and error bring to light entirely unforeseen factors and forces which in turn are put under experiment and yield again and again more than the original factors involved. Especially in these momentous discoveries and their applications to an astonishing range of social experience are the uncontrolled factors always showing up with most valuable results. Such experiences are of course partial experiments rather than complete

ones, but the very heart of progress in invention and discovery and especially in their application to society lies in the never ending trying-out processes. It is important therefore to consider the various aspects of the experimental method and process before attempting any sort of final verdict as to whether the method is applicable to social phenomena or not, or to what extent it may be so applied.

Experiment may mean, of course, the limited and specific laboratory project of physical science to which we shall call attention presently. But it may mean also a finishing, a perfecting or developing process through which crude beginnings evolve into finished products of remarkable perfection. Experiment here means taking the first stage, trying it out, remodelling, trying it out again, and reshaping until the final product results not from any single experiment but from a *continuous experimental process*, which is often the greatest of all experimental methods. Experimentation may mean again the trying out and applying of something already perfected in outline and form and in most details but lacking the "testing" process through which its final validity may be guaranteed. Testing grounds and laboratories themselves evolve new "experiments" for experimentation and so the process goes on, ever attuned to the possibilities of recognizing and discovering the utmost in the new and the effective. In reality experimentation in many of the fields just indicated resolves itself into a process of making as wide opportunity as possible of accidental discovery of factors from a certain quantitative venture into wider fields and more diverse phenomena. Such experimentation, if successful, becomes a fine art of or capacity for keen observation and quick recognition of the new or strange, of desirable or undesirable factors as the case may be. The development of skill and technique for the unerring discovery of new facts and processes and for following them to their consummation, whether or not originally sought, is manifestly one of the key tasks of social observation, experiment, and discovery. The discovery of America is none the less profound or far reaching whether it resulted from a special hypothesis about America or about Indian trade routes or from mere process of exploration. Experimentation then may mean once again *exploration* and especially as it relates to human migrations, geographic explorations, pioneer movements, and human expansion, to which we shall presently give special attention. In these and other general aspects of the experimental method and process await especially large opportunities for social research in both the exploration of possibilities and for actual observation and experiment, although the first task seems to be that of exploration of the field itself.

The Experimental Method and Special Problems. One vivid way of emphasizing both the possibilities and present ineffectiveness of the experimental method in social research is that of pointing the query What would the successful application of scientific experimentation mean to the most important and critical social problems of the world today? What would the experimental method successfully applied mean to the working out of special problems used for illustration in this volume and previously discussed at the end of each chapter—problems of population, the family, war, regions, and culture areas? All life and evolution, of course, may be characterized as a rigorous experiment with reference to races and peoples, survivals and population movements, so that the greater the possibilities for contacts, admixtures, and experiences, the greater chances there are for evolving and discovering new phenomena and new facts. The social scientist may with much greater profit than heretofore achieve rich results by better observation and exploration and survey in these fields. But more specifically what could the research specialist *not* do if he might apply the experimental method with more controlled factors to the field of eugenics and races, to settlements and institutions, and to the scores of aspects of the population problem itemized in Chapter V? The same general appraisal of the situation will apply to the problems of the family, to those of war and conflict, and to regional social problems, pioneer aspects of which we shall make a special point of illustration. Two special tasks need to be done before final appraisals can be made. These have to do, first, with standards and values—have the social scientists agreed upon sufficiently definite norms of values with reference to population, family, standards of living, tests of intelligence and social qualities, tests of international relations and other norms to set up definite hypotheses upon which they may judge whether experimentation shows success or failure? A second task will be that of setting up effective technique for observing and measuring phenomena over long periods of time in such way as to guarantee dependable uniformity, and of substituting dependable hypotheses for subjective generalizations and abstract theorizing.

It seems very clear, however, that progress is being made in these very directions. The League of Nations may be characterized as an organization with experimental possibilities. It is an

"experiment" in the common use of the word which implies a test as to whether it will "work", but it may provide also certain hypotheses upon which its members and their scientific collaborators may build a social experiment of really far reaching results. In the case of the family there are actually hundreds of social experiments going on and being observed with considerable control of factors. Examples may be cited from such courts of family relations as that of Judge Hoffman of Cincinnati and others, as well as from many juvenile courts, throughout the country. Scientific studies and observations have been made by G V Hamilton and others with many of the essential factors controlled. Many scientific experiments are being undertaken with children and the problems of childhood behavior.¹ Other experimental studies are being made of standards of living, housing problems, occupational and vocational situations, and occasionally of the more "radical" experiments in environmental observation, genetics, and sex behavior. In these experimental programs the cooperation of various social sciences and of medicine are often obtained, and comparative experimentation with animals has been extensive.

Pioneer Belts as Experimental Studies. From our last special type of problem, the regional, a number of approximate experiments and substitutes for experimentation might be found in such aspects as new settlements, folk background studies, pathological aspects of isolation, blood relationships, and others. The founding of America was undoubtedly a social experiment and for a time certain factors were known and measured and controlled, such as land, climate, stocks of people. And there was a certain sort of definite hypothesis set forth from time to time in the ideals and statutes of the new colony. Within America many regional experiments have been studied. The slavery issue was an experiment, while the whole problem of interrelation between the whites and Negroes in the South has been for a long time a social experiment and is still so considered by many observers. Other regional experiments might be cited. Eugenio Rignano has pointed out the "fact that Loria, more than any other economist, has the merit of having proved that an excellent substitute for experiment is offered by new colonies—excellent because among all the conditions determining economic phenomena there is present only

¹ See William I Thomas and Dorothy Swaine Thomas, *The Child in America*, G V Hamilton, *A Research in Marriage*, G V Hamilton and Kenneth Mac Gowen, *What Is Wrong with Marriage?*

one of them (the existence of soil as yet unoccupied) which is substantially different from the corresponding conditions of the mother country As is well known, the data of experience thus furnished brought about Loria's discovery of one of the most important laws of sociology, *i.e.*, that the wage system cannot be maintained when land is free"² Here again, however, in these aspects of regional situations a part of the requirement for successful experimentation must consist of the social scientist's technique and capacity for observation and for the measuring of his data, both historical and present, and for substituting scientific observation and description of situations that are known to have existed for complete control of situations at a given time or for the future which is beyond his power of observation and measurement This factor of control, however, must constitute the chief point of emphasis in the further discussion of the experimental method and in its varying relations to the social sciences and social phenomena

Another type of illustration of approximating experimental study is found in the studies of pioneer belts being made by the American Geographical Society with the cooperation of the Social Science Research Council During 1928 ten pioneer areas had been selected for study These belts included Alaska, Canadian Northwest, Canadian Clay belt, Brazilian Subtropical Highlands, Patagonia, African Subtropical Highlands, Australia, Siberia, Manchuria, Mongolia The committee's definition of a pioneer belt shows a fair basis for experimental study although it must be remembered that the committee does not characterize its studies as experimental They are cited here as examples of approximating experimental observation or substitutes for them According to the committee "A pioneer belt is a region of recent, of progressing, or of potential settlement For the purposes of this study emphasis will be on agricultural settlement, but where there are preceding forms of exploitation, as mining or lumbering, these also should be taken into account as settlement processes By agricultural settlement is meant farming settlement, grazing settlement, or a settlement in transition from farming to grazing The regions of primary interest for the purposes of this study are those that have resources sufficient to support a population having a density that is socially tolerable and economically efficient" There are three main purposes of the studies (1) To appraise the natural resources of a pioneer region (2) To study methods

² "Sociology, Its Methods and Laws," translated by Howard Becker, *American Journal of Sociology*, XXXIV, 438

of settlement with a view to avoiding the waste of life and capital that characterizes pioneer settlement now as in the past. It is believed that the result of such studies will be to discourage un-economic settlement as well as to promote successful settlement. They will do this by making world experience in settlement available to individual pioneer areas and also to makers of government policies. (3) To trace the successive stages of utilization of natural resources and the resulting effects on economic and social institutions.”³

Other Fields for Social Experimentation. In his study of Japan’s prison system John L. Gillin confessed that he “had hoped that in this country far removed from the traditions and iron-like customs of prison practice in America and England” something new in the way of social experimentation might be found. Such was not the case and the fact is another reminder of how “one longs for radical experiment in this field as in the various fields of business and science.”⁴ Prison practice, however, is still only one of many other aspects of society’s procedure which might well be adapted to genuine scientific experiment. Many minor experiments have been made in this field. Others have been undertaken in the field of public welfare where cities, counties, or states have set up certain hypotheses for preventive and remedial measures and have proceeded to try them out, forcing a certain kind of control. The case worker and the community organization expert often make experimentation of some scientific validity to the social scientist. The prohibition movement in America has commonly been characterized as a social experiment, and it may well be studied through scientific observation and objective measurement. It offers an adequate test to social research. Many voluntary research agencies and social work agencies as well as endowed foundations undertake to work out programs based clearly upon certain hypotheses. Having tried them out for a reasonable period with adequate study, if the hypotheses are correct, state or public funds often continue the work which experimentation proved to be sound, if experimentation failed to prove the case, the work may be neglected. Thus through state or financial means a certain sort

³ Statement and letter from W. L. G. Jeerg for the Committee. See also Isaiah Bowman’s “The Scientific Study of Settlement,” and “The Pioneer Fringe” in *The Geographical Review*, XVI, 647–653, and *Foreign Affairs*, VI, 49–66.

⁴ “Japan’s Prison System,” *Social Forces*, VII, 189

of control may be set up to assist the social experiment in its validity of trial and error

In democracies, such as Great Britain and the United States, and as Germany is now, the vote of the people puts into effect such measures of social experimentation. Social legislation dates back to the early factory acts in England, which limited the working hours of women and children, but it is the twentieth century that has witnessed the rapid growth of an increasing body of social legislation in Europe and America. The World War gave an unusual impetus to this and other social reforms. Since experimentation such as this can be tested out only over long periods of years, the bulk of this legislation and reform is too young to permit us to draw any valid conclusions. Examples for further exploration and experiment are abundant. Compulsory school attendance laws, child labor laws, laws affecting infant and maternal welfare, minimum wage laws, laws regulating hours and conditions of work, social insurance, mothers' assistance, penal reforms, immigration restriction, prohibition, direct primaries, the initiative, referendum, recall, the short ballot, are social experiments in the form of legislation. In addition to formal social legislation, social experimentation takes place under the guise of various organizations and cooperative forms. There are the many experiments in producers' and consumers' cooperation, various systems to establish and maintain industrial peace, such as industrial democracy, employé representation, shop committees, profit sharing plans, varying methods of supervising public utilities, different price policies.⁵ There are experimental schools, clinics for mothers and babies, marriage clinics such as Dr. Hamilton's in New York, clinics for the mentally and physically defective, health centers. All these and many others are forms of social experimentation.

Social Experimentation in Business and Politics. We have called attention to the predominant place which experimentation has had in the development of mechanical invention and its application to society and to many of the details of commercial expansion. In the business world there is much of example which is capable of scientific observation. One bank, for instance, set out to test its hypothesis that big-scale farming was more practicable and profitable than the small-farm operation and would prove more acceptable to community, employee, and citizen. Here was an actual hypothesis. The financial features were the chief factor

⁵See Wesley C. Mitchell, "Quantitative Analysis in Economic Theory," *American Economic Review*, XV, 8-9.

of first control and this was solved in a preliminary way by purchasing thirty-two farms and setting aside finances for operation. Other factors, however, may enter so that still other experimentation may be necessary to test the general hypothesis. Thus, a State Chamber of Commerce, knowing well the factors of good soil, excellent climate, cheap lands and labor, good markets, and certain financial resources set forth to test its hypothesis that thousands of the best farmers from other sections of the country could be happily induced to come and settle down for the development of a prosperous farming region. Uncontrolled factors, however, were of great importance in the experiment, although the experiment itself was highly successful in showing just what institutions and processes were involved in the community. For, elements which were lacking in the neighborhood were good schools and a spirit of tolerance toward outside settlers. These two factors overbalanced all the others, but proved conclusively the high value of the social experiment as being the only way to demonstrate the requirements for that particular section. It was a genuine social experiment which was a type worth studying.

Similar experiments may be found in abundance in the study of community and politics. One is in the experimental study of leadership and its place in community development. Such study may be a case study of past experiences or actual experimentation may be made. Jesse F. Steiner's studies of *The American Community in Action* reveal the possibilities of observation and measurement of factors involved. Other experiments have been made in the field of education, recreation, and religion. Still other studies are being worked out from closer observation of the recent national election than has been customary. That is, the 1928 presidential election was so manifestly subject to careful study of opinion, prejudice, bias, and other factors that special studies of particular regions and of the nation as a whole take on the nature of experimental study when the observer begins with adequate technique and in ample time. Charles E. Merriam and others have studied the voting habits of certain communities and have been able to measure objectively many of the important factors which go to make up an experiment. Stuart A. Rice discusses some of the aspects of the experimental study of politics in his *Quantitative Method in Politics*.⁶ "The central problem for the political scientist in this virgin field of experimentation is to classify, define, and measure changes in attitudes among a

⁶ Chapters xiv and xix.

variety of types of persons, in relation to varied stimuli. It is clear that the problem is very complex. Experimentation may proceed in a variety of ways. One was illustrated in the preceding chapter by the endeavor to measure the effects in the minds of students of an address by William Jennings Bryan. Students of method in rhetoric and argumentation are attempting to arrive at more general results by employing as variables stimuli which are both more narrowly defined and more effectively controlled. For example, they attempt to measure the effectiveness of various types of argumentative appeal upon selected audiences. Another conceivable type of experimentation might be carried out with the cooperation of the opposing political managers concerned, under conditions such that no favoritism toward either side would result. That is, certain precincts of known and equivalent political characteristics might be placed during a campaign and election under controlled conditions, so far as overt campaign efforts were concerned. A comparison of the effectiveness of various methods for influencing the voter might thereby be possible."

Utopias and Community Social Experimentation. The term "utopia," meaning "nowhere," was coined by Sir Thomas More who in the early sixteenth century wrote his "Utopia" or ideal commonwealth, and hence the word takes the meaning of an ideal community. But even before More, Plato presented his ideal commonwealth in the "Republic," and since More, Francis Bacon, William Morris, Étienne Cabet, Edward Bellamy, William Dean Howell, H. G. Wells, and a number of other writers have portrayed ideal communities.⁷ Men have not, however, stopped with writing about utopias, but have tried to put their principles and ideas into practice by establishing ideal communities. Practically all of these experiments have been based on some form of cooperative or communistic organization. Many of them have had a religious basis while others have been of secular organization entirely. Among the early experiments were the primitive Christian church, the Spartans, the monasteries, and the Taborites or followers of John Huss.⁸ However, America in its early days appeared a more fruitful field for social experiments of this character, and many schemes based upon peculiar religious organizations or different forms of political economy were tried out. Although some met

⁷ See the list of utopias in Chapter VI.

⁸ T. N. Carver, *Principles of National Economy*, pp. 714-722.

with initial success, few have survived at all, and none in its original form. It is interesting to note that the religious communities survived longer than the non-religious. Most of these, however, were based upon celibacy, and could live only as long as they continued to make converts. Practically all of them were based on some form of communism or joint-stockholding. None of these experiments has made any contribution to social theory, for although certain factors may have been held constant, the presence of so many variables makes it unsafe to draw any definite conclusions. The thesis has also been advanced that if these experiments could have been carried out in isolation, not only would the colonies have survived but there might have been valuable additions to the body of social theory.⁹ As it was they were planned hastily with but meager thought and preparation, the members were often a heterogeneous group with little in common, as in Robert Owen's colony of New Harmony, and, in the midst of individualism, the attempt was made to establish a communistic society with persons whose sole training and earlier life had been under the individualistic system.

Most of the religious experiments had their origins in the Old World. Many of the early colonists came to America to try out new religious beliefs. Among these early religious experiments were the *Shakers*, who although they are classified as American, came originally from England and planted colonies from Maine to Kentucky. The *Perfectionists* originated in Vermont, but moved later to Oneida, New York. Of foreign origin were the colony at Ephrata, Pennsylvania, the German *pietists*, followers of Georg Rapp (frequently known as *Rappists*) who settled in western Pennsylvania, the *Separatists* of Zoar and the *Amana Society*, the latter being still in existence, a Swedish group in Illinois known as the *Bishop Hill Colony*, the *Brotherhood Societies* in South Dakota, and colonies of *North Italian Protestants* still in existence in the South, particularly in Valdese, North Carolina, and near Gainesville, Texas.¹⁰ Of the non-religious experiments, the *Owenistic* settlements, the *Fourieristic* colonies, and the *Icarians* are the most important. Robert Owen, after achieving such signal success with his mill community of New Lanark, became interested in the larger social problem and turned Utopian socialist. In 1924, he purchased the community

⁹ See Chapin, "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 133-144.

¹⁰ Summarized from Carver, *Principles of National Economy*, pp. 714-722.

at Harmony, Indiana, from the Rappists, and renamed it *New Harmony*. The basic principles were common ownership of property, and unorthodox religion, and simple marriage relations. The members of the community were largely idealists, had few interests in common, and had been trained in the school of individualism. In less than three years the colony failed. Numerous similar experiments followed, none of which lasted a year, the one at Yellow Springs, Ohio, lasting only several months. Charles Fourier, a French Utopian socialist, was the contemporary of Robert Owen. As a result of the popularity which his doctrines attained in America the *Brook Farm experiment* at Roxbury, Massachusetts, was undertaken by a number of intellectuals such as George Ripley, William Ellery Channing, John S. Dwight, Margaret Fuller, Ralph Waldo Emerson, Henry D. Thoreau, Nathaniel Hawthorne, and Elizabeth P. Peabody. In contrast to the New Harmony experiment here was a group of harmonious idealists who desired to reorganize society so that there "might be more leisure to provide for the deeper wants of the soul." The organization was that of a joint-stock proprietorship administered under the departments of general direction, agriculture, education, and finance. Later the colony became the *Brook Farm Phalanx* according to the basic Fourier principle. In 1846, the unitary phalanx building was destroyed by fire just as it was nearing completion, and this financial loss brought the colony to an end. The *North American Phalanx*, built in 1843 by a number of New York idealists at Red Bank, New Jersey, is in some ways the most important Fourieristic experiment. The colony was well-planned and harmony apparently reigned. But a difference of opinion over the location of a new mill led to the dissolution of the community twelve years after its organization. One of the most successful of these experiments was the *Icarian community* in Iowa founded by the followers of Étienne Cabet, the author of "*A Voyage to Icaria*." After many discouragements and preliminary settlements in Texas, Louisiana, and Illinois, they finally bought land in southwestern Iowa not far from the present town of Corning. Here they maintained their communistic system until 1895 when they changed into an individualistic régime.¹¹

Borderline Experimentation. Perhaps the experimental method in social research is more often considered synonymous with certain experimentation in comparative research with animals and plants than in any other way. We have referred in Chapters VIII and

¹¹ Cf. Harry W. Laddler, *A History of Socialist Thought*, ch. xi, T. N. Carver, *Principles of National Economy*, pp. 714-722, Chapin, "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 133-144.

IX to certain experimental work of Kohler and Yerkes on anthropoid apes which seek to find out elemental facts about human behavior through the comparative method. These factors include the processes of learning by trial and error, those involved in hunger and sex behavior, and in other phases of activity such as mating and the rearing of young. The biologists and psychologists, too, have studied various aspects of sex behavior and the influence of food and drugs on sex and breeding through experimentation on other animals, especially white rats, in the laboratory, where controlled elements are easily possible. And the most common of all social experimentations of this sort, of course, are those in the field of medicine where the whole range of experiment, although performed through the animal medium, is directed toward human welfare.¹² Here as in all other aspects mentioned, the field is still large for further experimentation, and the promise great. In medicine and psychology, however, much experimentation is being made, and more can be made, upon human beings themselves. This is true of many sensory tests designed to discover various effects of physical abnormality or fatigue or foods upon mental reaction and behavior. Some such tests, too, have been made in physical and mechanical experimentation as related to human beings and social uses of various elements and forces of nature.¹³ But even in experimentation of this sort the difficulties in the way of unhampered technique are apparent from the vigorous protests of many vivisectionists and other sentimentalists. This whole remarkable story of experimentation for the promotion of human welfare and its opposition by those for whom it was intended makes an excellent research project itself and involves the wide range of problems and interrelations which characterize projects for the joint attack of the several social sciences.

After all, however, perhaps the most distinctive efforts toward discovery and control of biological factors of human life and breeding through experimentation have been made by experiments upon plants and animals with the specific objective of studying inheritance and the specific application of biology to human beings. In Chapter V we have called attention to the notable discoveries and work of Mendel, deVries, Weismann,

¹² See Paul De Kruif, *Microbe Hunters*.

¹³ See Chapin, "The Experimental Method in Sociology," *The Scientific Monthly*, IV, 133-144.

Lamarck, and others. And although the known applications of their discoveries to human beings are still quite limited, they represent an epoch in method as well as in discovery. Writing of the enthusiasm which followed the rediscovery and corroboration of Mendel's forgotten work and deVries' experiments upon the methodology of evolution, Edward M. East testifies "to the never-failing astonishment and delight as experiment succeeded experiment in which hybrids between two unimportant and innocuous looking beans or two miserable harlequins of the mouse family were found to transmit their peculiarities with an exactness that could be recorded in the terms of an algebraic equation." He calls attention to the fact that during "the next decade or so these enthusiasts covered a great deal of ground, if such an indifferent phrase can be used to express the magnitude of their efforts. The botanical material, besides numerous flowering plants, included genera from the ferns, the mosses, the liverworts, the fungi, and the algae, the zoological types, in addition to a long list of insects and of mammals, embraced birds, amphibians, reptiles, fishes, and molusks. Human heredity was also studied, though here analysis was necessarily confined to genealogical records, which are always incomplete and often erroneous."¹⁴

Human Participation in Social Experimentation. Enough examples of the borderline experimentation have been cited to indicate its significance and possibilities. The range of illustration is wide and the measure of it would itself make a sizable study. There is still another type of experimentation of great significance which incorporates more nearly the direct human factor and also approximates control. This is personal experimentation through either agreement between individuals and laboratories or observers by which an individual may be the subject of experiment or self-experimentation of individuals under scientifically arranged condition. Here again the lists are long, and cases are rich in illustrative material. Once again, however, the limitations are so marked that progress is slow. Society does not look favorably upon human experimentation. Sometimes individuals have willed their bodies or brains to laboratories or have offered to subject themselves to varied experiment. But the range of opportunity is not commensurate with the need. Although it must be clear that, valuable as are the experiments upon animals, and valid as are some of the comparative data thus contributed, there are differences between the general animal and plant world and man-

¹⁴ *Heredity and Human Affairs*, p. 47.

kind in the structural and functional aspects just as there are in the cultural phases already discussed in various parts of this volume. Perhaps a next step in the social experimentation process may be a joint program in which individual, institution, and popular sanction through agreement and simple legislation, may permit of personal and group experimentation under very carefully planned conditions such as will yield definite results and yet violate no social or humanistic principles. In the meantime the limited experimentation proceeds. Individual scientists and their co-workers stand ready to test the results of their discoveries upon themselves. This is especially true in medical science whose martyrs mark the milestones of its progress. If the physical sciences reflect pride in these pioneers, the social sciences should be equally proud to share honors with them. For, as repeatedly pointed out in previous discussions, here again is the merging of physical science with social, since little scientific development has played a more vital and significant part in the conservation of human life and the promotion of social well-being than have these human experiments.

In 1928 the most recent martyr was the world-famous Japanese bacteriologist, *Dr Hideyo Noguchi*, who died in a seaport on the African Gold Coast, a victim of African yellow fever. By studying his own case, he had just discovered the cause. His death recalls to mind the many notable men and women who have made similar experiments, many of which have ended fatally.¹⁶ *Dr. Sidney Rawson Wilson*, of Manchester, England, a noted surgeon and anesthetist, experimented with anesthetics to find one in which the patient would retain consciousness but lose feeling. His wife found him in his laboratory dead, with a gas mask over his face. A distinguished ichthyologist, *Van Campen Heilner*, of Spring Lake, New Jersey, believes that only one shark—the white shark—is a “man eater.” To test his hypothesis he will swim in the shark-infested waters of the Bahama Islands. A squad of fifty students in the New York Homeopathic Medical College volunteered to aid *Dr Linn J. Boyd* in his experimentations of the effect of insect poisoning upon the human body. They took daily doses of poisons of spiders, bees, and other insects over a period of six months, and experienced no disastrous results but made a valuable contribution to medical knowledge. A Welsh bacteriologist, *Miss Mary Davies*, died

¹⁶ Cf Earl Chapin May, “Risking Death for Science,” *Popular Science Monthly*, 112, pp 25, 26, for this summary.

in France recently "She deliberately inoculated herself with gas gangrene germs to test a remedy for the terrible malady which killed thousands of soldiers in the early war days" The experiment in Bellevue Hospital, New York, where *Vilhjalmur Stefansson*, the famous Arctic explorer, and his friend Dr Eugene F DuBois, were living on a diet of nothing but fresh meat to test whether this diet produces scurvy, was followed with interest since the outcome was to have a definite effect on the future of Arctic exploration To test the hypothesis that malaria is not solely a climatic disease, *Sir Patrick Manson* imported malarial mosquitoes to London, where he exposed himself to them and developed the disease Thirty years ago, *Dr. Jesse Lazear* "gave his life to prove that yellow fever is contagious only because its germ is carried by a certain kind of mosquito" But further proof was required by the Walter Reed Commission, of which he had been a member So *John R Kissinger*, former private in the United States Army, permitted five contaminated mosquitoes to bite him He took the fever and recovered but never regained his health Carbon tetrachloride had been found deadly to the enervating hookworm, but harmless to animals *Dr Maurice Mann* took a dose of the chemical and found it also harmless to man *Louis Pasteur*, who was sure he had found a cure for rabies, was about to inoculate himself when an Alsatian lad, *Joseph Meister*, who had been bitten by a mad dog, was brought to him He was cured and "today shares fame with Pasteur" *Humphry Davy*, the inventor of the safety lamp, experimented with nitrous oxide, which was believed dangerous, and found that "laughing gas" could be safely used in dentistry and other "surgical operations in which there is no great effusion of blood"

The Experimental Method a Keynote to All Science. This preliminary glance at the field and problem of the experimental method in the social sciences reveals the need for a careful examination of the essentials of the experimental method applied to any problem It must be clear that most of the examples cited offer more opportunity for the study of what the experimental method *may* mean than for what it *has* meant, although progress has not been negligible It must be clear, however, that so far we have only approached the subject from the general viewpoint of prospect rather than actual experiment And although the problem of experiment in social research will prove different in many respects from that of physical experimentation, nevertheless the fundamentals of scientific experimentation remain the same. Experi-

ment as a key to scientific method has become the indispensable tool of all scientists. It must become a more effective tool for the social scientist. But the social sciences and social research require no less accurate technique, no less well prepared conditions for experimentation, no less well trained observers and measuring units, no less accurate observation and explanation with adequate immediate steps. We have called attention to the tremendous, and for the most part neglected, range of social observation available without controlled conditions and the need for increasing experimentation under satisfactory control and for adequate substitute for social experiment. Such experimentation may be assisted by the selection of time and place, by well selected elements of cooperation and, where possible, approximating control.¹⁶ Experimentation, too, should itself initiate and devise new ways and methods of social experimentation, this itself constituting one of the next steps. Techniques are needed for determining social constants and for controlling essential variables and for correlating experiment with exploration and survey, as previously indicated, and for the full utilization of statistics as measured observation, as pointed out in the succeeding chapter. And the social scientist must first of all face the facts that the scientific method, and particularly the experimental aspects, late in their application to all research have been still later to reach the fields of social research. Promotion of real scientific experimentation will follow the thorough understanding of the past as well as the status of the present and the frank admission of the limited achievements of the social research techniques.

It is commonly stated that the processes of observation and experimentation which mark the rapid advance of science are only a few centuries old.¹⁷ *E N Stapleford* estimates that these processes were substituted for philosophical speculations only about three hundred years ago. Prior to this "comprehensive statements explaining everything in the heavens above and the earth beneath" passed for science, and "the scientists were at once philosophers, theologians, and scientists." These studies, although acute and subtle, accomplished little, since there was no particular way of verifying conclusions. Thus the all-important "sureness of results" has largely superseded the unreliable "largeness of results."¹⁸ *Hornell Hart* summarizes the develop-

¹⁶ See A. Wolf, *Essentials of Scientific Method*, p. 18.

¹⁷ See also Theo F. Van Wagener, *Beacon Lights of Science*, p. vi.

¹⁸ "The Contribution of Social Work to Social Progress," *The Family*, VII, 100.

ment of the laboratory or experimental method from its early instinctive beginnings in the trial-and-error method of both man and animals to its present rational stage of the use and application of accurate instruments and highly controlled conditions.¹⁹ Chapin emphasizes the contribution of the experimental method to the "striking achievements of modern science. This method allows us to analyze out relations of cause and effect more rapidly and clearly than by other methods. It permits verification by many observers. It has substituted for unreasonable prejudice a definite sort of proof that has attained sufficient certainty to justify prediction."²⁰ And Hart ascribes two fundamental characteristics to this method "first, the development of apparatus for the accurate observation, measurement, recording, and enumeration of data, and second, the development of methods for controlling all variables except the one under investigation."²¹

Corollaries of the Experimental Method. The object of experimentation, which is controlled observation, is either to formulate hypotheses or to test them. Assisted observation, or what is usually termed exploration and survey in the social sciences, leads to the formulation of hypotheses, but these must be tested and verified before they can be accepted as working bases for further scientific research. In the physical sciences the unit for experimentation may be any physical element or compound. Compounds are analyzed and broken up into their elements, and the elements submitted to further laboratory testing in varying combinations, and their reactions studied. In the social sciences the unit may be either an individual or a group, using group in a broad sense to mean a family, a neighborhood, a sect, an age, sex, political or occupational group, a community, a state, or a nation. This concept of the unit in social research demonstrates the complexity, variability, and heterogeneity of social phenomena, which make control difficult, and which make successful results through this approach less certain than in the physical sciences where the factors are more easily isolated and controlled. In the first place it is practically impossible to separate an individual from his group or his group heritage, since it is not natural for man to live

¹⁹ "Science and Sociology," *American Journal of Sociology*, XXVII, 372-374. Cf. Chapin, "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 133-144.

²⁰ "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 133-144.

²¹ "Science and Sociology," *American Journal of Sociology*, XXVII, 372-374.

in isolation. And in the second place no individual belongs to only one group, but every individual is a member of any number of or combination of groupings. But under such circumstances how can the fundamental rule of the experimental method—"to vary only one condition at a time and to maintain all other conditions rigidly constant"²²—be operated effectively? Yet if such control is not effected the results of the experiment are weakened, if not nullified, because if there is more than one variable it is impossible to know to which factor to ascribe the condition or whether more than one factor is responsible, and if there is no reaction it is impossible to ascertain whether there was a neutralization due to the combination of influences, or whether the result would have been the same in the absence of any or all of the factors.²³ It is these distinctive characteristics and almost insurmountable complexities of social phenomena that give rise to the frequent assertion that the experimental method never can be used successfully in social research, which have also produced the classification of "direct" and "indirect" experimentation,²⁴ and which make social scientists wonder sometimes whether social experimentation ever will emerge from the trial and error stage.

Robert E. Park illustrates the point that social experimentation is not only possible but that it probably exceeds that in any other field of human activity, by citing social reforms and social legislation as forms of social experiment. At one time it was deemed sufficient to "formulate programs" and "initiate policies," but now experiments are conducted to test these hypotheses.²⁵ In support of his thesis of "direct" and "indirect" experimentation, *Thomas Nixon Carver* asserts that, "whether the case be natural or factitious, experimentation takes place whenever the regular course of the phenomenon is interfered with in any determinate manner. The spontaneous nature of the alteration has no effect on the scientific value of the case, if the elements are known."²⁶ Following Comte's concept of pathological cases as indirect social experimentation, *Chapin* asserts that, "Whenever the regular course of a phenomenon is interfered with in a determinate manner, true experimentation

²² Chapin, "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 133.

²³ *Ibid.*

²⁴ T. N. Carver, *Sociology and Social Progress*, pp. 52-54.

²⁵ "Methods of a Race Survey," *Journal of Applied Sociology*, X, 414-415.

²⁶ *Sociology and Social Progress*, pp. 52-54.

takes place, and hence . . . it is not important to have a conscious agent to effect the change . . . Under certain natural circumstances physical factors at the basis of social life have been removed," and it is only necessary to observe the effects. Results brought about by isolation, as in the Arctic regions or in some sections of the Appalachian Highlands, or unrestricted increase of population as in China, are examples of such "natural" experiments with social significance. However, the social scientist "cannot rely on natural experiments alone to test his hypotheses. Such experiments are infrequent, they are not easy to recognize, are difficult to observe properly, and will probably become more and more infrequent as time goes on, because of the standardizing effects of the spread of a more homogeneous culture over the world."²⁷

Further Applications to the Social Sciences. Recalling again Karl Pearson's dictum that "the unity of all science consists alone in its method, not in its material,"²⁸ we repeat that we must look for the experimental method to be applicable to the social as well as to the physical sciences, or else challenge our scientific technique and methodology. Although we have indicated how this method has been applied to the study of social phenomena to some extent, we have also shown that it has not yet met with success here as in the physical realm, because of the nature of social phenomena. The social unit is much more complex, heterogeneous, and variable than is the unit in the physical world, and in the second place, social culture is constantly changing. The inevitable variability and constant change make it practically impossible to vary one factor while holding all others constant. Then, too, social research is dealing with human subjects instead of purely physical factors, and there are the non-material qualities, such as attitudes and emotions, which play a leading rôle in the development of culture, and which cannot be subjected to experimentation in the generally accepted use of the term, but must be taken into account in any study of society. Society, too, as a laboratory is not comparable to the specially designed, elaborately equipped laboratory of the present-day physical scientist, where any unit may be isolated and examined. Moreover, social experimentation is a long-time process, so that frequently "one sows and another reaps." These difficulties, however, do not preclude the possibility of

²⁷ "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 137.

²⁸ *The Grammar of Science*, ch 1.

adapting this method to research in the social sciences, but rather challenge a more vigorous and intelligent effort to carry it further into the whole program of social research. Such a challenge can scarcely be overestimated.

Wesley C. Mitchell asserts that the difficulty of making experiments in the social sciences seems almost insuperable "so long as we hold the old conceptions of human nature. But the behavioristic concept promises to diminish this handicap under which economics and its sister sciences have labored. For we can try experiments upon group behavior. Indeed, we are already trying such experiments."²⁹ *Robert E. Chaddock* posits three limitations on the experimental method in the social sciences. First, the heterogeneity of the units,—that is, human nature, "makes the control of many of the variables related to welfare difficult, if not impossible." Second, "many related factors enter into a given social situation making it complex. Since . . . these variables are difficult to control, it may happen that some uncontrolled variable is responsible for the observed result." And third, "a generation may be required to produce results. Deliberate changes are wrought so slowly that in the meantime many social and economic factors and relationships, other than those under control, have been changed concurrently. To what factor or factors, therefore, can any resulting improvement be fairly attributed?" Nevertheless, he believes that the experimental method can be employed with success in some situations, "provided due caution is exercised," and illustrates his point with a reference to the many experiments being made in relation to hours of work and other industrial conditions.³⁰ *W. L. Westerman* doubts the possibility of ever eliminating entirely the subjective element from social experimentation even through the results of statistical analyses, since "it is true that economists cannot isolate a field of experimentation. There is in actuality no possibility of establishing the Isolated State . . . The exigencies of human life put objectivity in social and economic experimentation practically out of the question."³¹ On the other hand, *Chapin* holds that although social experimentation is still in the trial and error stage, there is no reason to believe that it will not eventually pass into the stage of precise

²⁹ "Quantitative Analysis in Economic Theory," *American Economic Review*, XV, 8-9.

³⁰ *Principles and Methods of Statistics*, pp 31-33. Cf. Hornell Hart, "Science and Sociology," *American Journal of Sociology*, XXVII, 372-374. Also Chapin, "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 133-144.

³¹ "On the Sources and Methods of Research in Economic History," *Political Science Quarterly*, XXXVII, 70.

experimentation Collective experimentation today as illustrated by social legislation and other forms of experimental social control, is simply rational societal selection "²²

The Present Problem. Our review of the present situation with reference to the experimental method in social research leaves us with certain simple and limited conclusions, which in turn lead us back again to the main problem of mastering method and personnel. These conclusions embody the recognition of a tremendous range of opportunity and field for social observation and experimentation in all their meanings and ramifications, the recognition of a main task as one of exploring the possibilities of such a field and of developing adequate methodology, personnel, and control for further experimentation, and the recognition of an essential unity and correlation between the experimental method and other methods and a constantly developing scientific-human research. One of the specific tasks in the development of scientific-human methodology and procedure which is of special importance to the experimental method is that of discovering, analyzing, and controlling social constants and of finding what we have called the social denominator. This problem will be discussed in the final chapter of the book. In the meantime it is important to develop and interpret the experimental method in conformity with the other types of method and procedure. In experimental studies of a genealogical sort, for instance, the historical method will serve to gather materials suitable for the experimental substitute and to coordinate efforts. The case method will become an essential instrument for special observation under controlled conditions. The statistical method provides the essential instruments for measuring observation. And finally the closest relationship of all is perhaps with the survey method since exploration is an intermediate step between observation and experiment in the scientific method. Recalling that digressions from the norm always attract attention, any maladjustment is soon observed. Further observation leads to exploration and the results of explorations are written up frequently in descriptive terms. Description, of necessity, implies generalities, but these generalities are valuable in that they arouse the desire for more concrete and specific data.

²² "The Experimental Method and Sociology," *The Scientific Monthly*, IV, 246-247.

To secure this information a survey is made which often results in a social experiment. Much of the social legislation already mentioned has been introduced in this way, through surveys of Federal and State Bureaus and private organizations. While the experiment is in progress, surveys are made from time to time to test its operation, which may result in its continuation, modification, or repeal. This testing of the experiment also frequently gives rise to intensive case studies of individuals or factors affected. These preliminary steps are not always taken or are not worked out scientifically, which may mean the enactment of ill-adapted legislation that does more harm than good from both the scientific and the practical points of view. But these limitations are a part of the problem, and more and more society is coming to see the value of approaching its problems through the logical steps and processes of scientific method in which observation, exploration, and survey-experimentation appear to assume larger and larger proportions.

Developing Social Experimentation. When we recall the rapid progress which has usually been made in various sciences from meager beginnings to comprehensive undertakings, and when we note the general progress that has already been made in social science through social experimentation and experimental observation there is every reason to expect a solution of many of the difficulties which now beset the experimental method. Experimental psychology is barely a half century old. Psychiatry is much more recent. In the physical sciences invention and discovery have developed beyond calculations. Nevertheless, progress has in all cases resulted from intensive and intelligent application over a wide area of possibilities. In the social world we make more experiments than almost any other, but as Professor Giddings points out these are not usually of the scientific sort. To achieve the scientific in "societal" experimentation cannot be easy. "Is it," he asks, "at all possible?" And he adds "Among unnecessary ways of being mistaken none is more unnecessary or more discredited by experience than to assume that something or other can not be done"³³ In this chapter we have emphasized the signifi-

³³ *The Scientific Study of Human Society*, pp. 55-56. Also "As far as I know there is no record of a strictly scientific societal experiment completely carried through on a large scale, but there have been many tentative and partial experiments (experiments in experimenting, if one may call them that) and they are multiplying" p. 56

cance of partial experimentation, of experiments without complete control, and of the need for new techniques for more scientific observation and precise recording of what goes on. We have emphasized the significance of discovering unexpected truths from observation and experiment in the continuous "natural" societal experimentation going on all the time. Giddings has stated the problem where perfect control is not possible by saying that "the validity of every inference from an experiment or about its apparent results must be determined, if such a thing is possible, by accredited scientific procedures" ³⁴

Proceeding to the development of such procedure he sets forth five procedures or methods. The first is to delimit the field in which the societal experimentation in question has been going on or is proceeding. The second is to compare the distribution of the facts gathered in the given area before the introduction of the experimental factor and after. The third is to ascertain whether the experimental factor is of appreciable magnitude by comparison with the magnitude of the changes attributed to it. The fourth is to check the validity of an inference drawn from societal experimentation by comparing ratios with the arithmetic of chance. And the fourth is to measure correlation. "It is by the application of these procedures to relevant and adequate data that we may hope in time to build up a scientific criticism of the enormous mass of loose inferences which we now encounter relative to the countless societal experiments which, in modern democracies, are being made in every realm of human effort" ³⁵. Finally, one other contribution to this experimental task will be cited as an index of its immediate and workable nature. James Bryce appraises political science, in so far as it is scientific, to be experimental. In substantiation of his premise he contributes his notable studies of modern democracies. But he calls for more workers and more studies. For "the working of institutions and laws, the forms in which they best secure liberty and order, . . . these need to be more fully investigated by a study of what has proved in practice to work well or ill. It is facts that are needed. Facts, Facts, Facts" ³⁶.

³⁴ *Ibid*, p. 172.

³⁵ *Ibid*. See all of ch. ix on "The Validity of Inference from Societal Experimentation", also ch. ii, on "Societal Variables," and ch. iii on "The Scientific Scrutiny of Societal Facts."

³⁶ *Modern Democracies*, p. 12, *ad passim*. Thus the book is intended to be "a record of efforts made and results achieved." See also ch. ii dealing with "The Method of Inquiry" for one of the best distinctions between the physical and social sciences, and for an excellent premise which makes human nature, as the one "constant," the basis for all the social sciences.

CHAPTER XVIII

TYPES OF METHOD: THE STATISTICAL

Statistics and the Unity of Social Research. In seeking points of unity in all the social sciences and in social research into larger social problems a number of common meeting grounds have been presented. One was the central factor of human behavior. Another was the factor of human culture stressed in previous chapters and emphasized much more of late by the anthropologists and sociologists. Still another point of unity is that of *method* in which both the historical and the statistical are appraised as sufficiently applicable to all social sciences as to justify the claim for their contribution to such unity. Manifestly any methodology which will contribute to such unity is of the utmost value to social research and we come therefore to the examination of the statistical method with peculiar timeliness. Our introduction to the field and methods of social study so far has shown a varying approach, both in the historical development of social study and to some extent in the present stages of social research. To what extent may there be unity now in the whole process and products of social research? What unity may be developed out of the general philosophical and analogical approaches, the more specialized disciplinary attacks as found in the biological, psychological, anthropological, politico-juristic, economic, and sociological approaches? Or how bring further unity to the more technical historical, case, survey, experimental methods, which constitute the developing techniques or means of gathering and assembling data, and which are therefore applicable to the various approaches, thus bringing about their closer relationship? However, the unity is not yet complete for, although the historical method can be applied to all approaches, the case, the survey, and the experimental method are limited to specific ones. For example, the case method is applicable to all except the philosophical and general analogical approaches, the survey can be used only to gather contemporaneous facts, while the data of anthropology, psychology, biology, political science, economics, and sociology are ame-

nable to experiment. Collecting and assembling data are but preliminary steps in research, which is complete only with the tabulation, classification, comparison, interpretation, and presentation of the material. Statistics is a technique by which these final steps are facilitated. Scientific procedure whether proceeding through the nine approaches specified or others, or whether developed through the four "methods," is consummated and unified by means of the one tool, statistics, common to all and upon which all must depend.¹ But statistics is not merely a tool, it is also a science, which has worked out definite, concrete units of measurement, and these units become the tool or instrument by which the scientist tests and measures his results.² Like all science the subject matter of statistics is a growing body of knowledge. As knowledge increases it becomes ever more complex and outgrows the simpler units of measurement which have been established, while statistics seeks ways and means of reducing the newly acquired knowledge to quantitative measurable form and devises new units of measure. In this way data which may at one time be considered qualitative and descriptive and impossible of statistical treatment become quantitative and capable of exact measurement in the hands of the statistician.³

William F. Ogburn in presenting statistics as both science and method, places emphasis upon its scientific nature. He says, "Statistics is also a science, but it is different in kind from the other social sciences. The subject-matter of statistics is the statistical methodology. In this sense it resembles mathematics. Statistics, like mathematics, is a developed, organized body of knowledge, as any science is, but the knowledge it develops is about a method."⁴ Statistics is, therefore, "the applicability of a special method" to social data. *Willford I. King* divides statistics into "statistical method" which he considers "a branch of mathematics, inasmuch as it attempts to formulate definite rules of procedure applicable in handling groups of data of many different varieties," and "applied statistics" which "consists of the application of the rules and formulæ laid down by the

¹ Cf. Stuart A. Rice, *Quantitative Methods in Politics*, chs. 1-iv.

² Cf. F. Stuart Chapin, "Elements of Scientific Method in Sociology," *American Journal of Sociology*, XX, 371-391, Charles E. Gehlke, "The Use and Limitations of Statistics in Sociological Research," *Publications of the American Sociological Society*, XXI, 149.

³ See Chapter XV, pp. 239-240.

⁴ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p. 378.

methodologist to the concrete facts as they exist, the relationship being the same as in the case of pure and applied science”⁵ Robert E Chaddock distinguishes between statistics as “masses of recorded measurements or countings” and as “the body of methods and principles which governs the collection, analysis, comparison, presentation and interpretation of numerical data The former refers to the raw materials with which the statistician works, the latter to the scientific methods of handling these materials The one refers to the fact basis upon which conclusions rest, the other guards at every step the accuracy of the procedures by which the dry facts are clothed with interest and meaning, and by which sound conclusions are reached In the latter sense statistics becomes a powerful tool of science”⁶ Both King and Chaddock further classify statistics as “descriptive” and “scientific” King treats these as divisions of “applied statistics” According to him, “the descriptive field deals with records, either of things in their existing state or from the historical standpoint” while “scientific statistics makes use both of the rules laid down in statistical method and the data collected for descriptive purposes”⁷ Chaddock applies the term “descriptive” to statistical data which may be employed “simply to describe in exact terms” and regards as “scientific” statistical data so arranged as “to show relations, to establish laws or to verify theories”⁸

The Developing Science of Statistics. Statistics as a science is at most but a hundred years old, although its use as a means of numbering and counting dates back at least to 2000 B C The use of numbers is manifestly quite different from the new statistics contrasted by Franklin H Giddings, definition as “the *science of numbering*” To Gottfried Achenwall, a professor in the University of Marburg in the eighteenth century, is ascribed the origin of the term “statistics,” which is derived from the Latin “status” meaning the state, and the Italian “statistica” or one versed in matters of the state This principal use of early systems of numbering, or Political Arithmetic as it was often called, is analogous in some respects to the political origins of economics as political economy⁹

⁵ *The Elements of Statistical Method*, pp 16-17

⁶ *Principles and Methods of Statistics*, p 26

⁷ *The Elements of Statistical Method*, pp 17-18

⁸ *Principles and Methods of Statistics*, pp 26-27 Cf Franklin H Giddings, *Inductive Sociology*, pp 22-25

⁹ King, *The Elements of Statistical Method*, p 15, Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p 279, Edmund E Day, *Statistical Analysis*, p 1

Although *Gottfried Achenwall* is sometimes called the "Father of Statistics,"¹⁰ it is *Lambert Adolphe Quetelet*, Belgian astronomer and mathematician (1796-1874), who is generally recognized as "the first name in the history and development of modern statistical science."¹¹ *Quetelet*, himself, dated statistics as a science "back no longer than 1820, but *M. Block* shows that in its essential features this method was taught by *Courning* in the University of Helmstadt in 1660, and that a course in statistics was offered at Jena in the early part of the eighteenth century."¹² *John Graunt's* important discoveries and results from the study of mortality statistics together with records of almost 6000 deaths collected and analyzed by *Caspar Neumann* in 1691 led to computations by *Edmund Halley*, astronomer and scientist, which laid the foundation for modern scientific life insurance.¹³ It is *Quetelet*, however, who has given us the concept of the "average man" and who was the first to make scientific application of statistics to social data in his "moral statistics" "By moral statistics is meant that portion of the general science dealing with such individual actions as are commonly classed as moral or immoral. The phenomena usually dealt with are crimes, suicides, and marriages." And "it is thus in *Quetelet's* studies of the moral actions of men that is to be found the basis of the quantitative study of social life."¹⁴ His contribution to the development of statistics was four-fold "(1) perfection of plans for census taking, (2) criticism of sources, (3) arrangement of materials, and (4) progress toward uniformity and comparability of data."¹⁵

Application of Statistics. Since statistics is a science whose subject matter consists of its method and since it is also a tool of exact measurement, its unifying relationship to the social sciences and to social research lies in the application of its method to the data collected and assembled by the various research methods, especially the case, the survey, and the experimental. Statistics thus effects not only the unification of the social sciences but the unity of all science, for its method is applicable to both physical and social science. The results of scientific investigation and experimentation have been measured, tested, and compared by the application of statistical procedures ever since

¹⁰ W I King, *The Elements of Statistical Method*, p 15

¹¹ Lucian M Bristol, *Social Adaptation*, p 44

¹² *Ibid.*, pp 44-45

¹³ King, *The Elements of Statistical Method*, pp 8-9

¹⁴ Frank H Hankins, *Adolphe Quetelet as Statistician*, pp 83, 105

¹⁵ *Ibid.*, p 41.

science separated itself from philosophy, and, although the advance has been gradual, it has been none the less continuous and certain

Lynn Thorndike characterizes statistics as the very heart of scientific advance when he says, "Perhaps the greatest achievement of modern science is its ever increasing capacity to measure Matters that were formerly entirely outside man's ken are now measured with superhuman mechanical accuracy. Data are accumulated of a minuteness or a stupendousness, and in such multitudinous quantity, that the average human mind is as little able to take them in as the defective human senses are to make the precise instrumental and experimental observations upon which they have been based by a vast army of devoted scientific workers"¹⁶ Astronomy, physics, and chemistry were among the earliest quantitative sciences. Biology and genetics followed later, paving the way for the application and ever-increasing use of statistical method in "experimental psychology, including so-called psychological testing, in economics, and certain aspects of sociology, and even political science. The extent to which social thought and theory will pass from the sphere of opinion, conjecture, and contemplative analysis to that of fact, knowledge, and control, will depend on their permeation by these scientific methods of measurement and statistics. Even though social problems must in the last instance be solved in social terms, many problems never appear at all until the data have been subjected to statistical manipulation"¹⁷ Noting this increasing emphasis upon the statistical method in its application to the social sciences, *Chaddock* says, "Inductive methods are being rapidly adopted to supplement older deductive procedures in arriving at a reasonable understanding of organized society and of human behavior. This understanding of group behavior gives a common purpose to all the social sciences which deal with its different aspects. The quantitative analysis of recorded behavior in a kinetic society requires a common method—the statistical. The accumulation of quantitative data and the development of appropriate methods for handling them have been slow. The student of even thirty-five years ago gave little attention to statistical studies because both data and methods were lacking. Recent years have witnessed a rapid development of both"¹⁸

¹⁶ *A Short History of Civilization*, p 558

¹⁷ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, pp 8-9.

¹⁸ Cf Irwin Edman, *Human Traits and Their Social Significance*, pp 405-407.

¹⁸ "The Function of Statistics in Undergraduate Training," *Journal of the American Statistical Association*, XXI, 4

The Heart of the Statistical Contribution. Statistics also devises and prescribes units of measurement. These units are determined by the nature of the phenomena which are to be measured, and differ according to subject matter and objectives. But in order that comparable things may be compared, standardized units of measurement must be devised, accepted, and adopted. The term "unit of measurement" naturally presupposes that the data to be measured be objective and quantitative, since, for the most part subjective data and certain types of "qualitative" material are not amenable to statistical measurement. And herein lie the strength and scientific validity of the statistical method for, when properly applied, it minimizes the possibility of making false assumptions, or drawing unfounded conclusions, or making unwarranted comparisons, since the personal element is eliminated. Added scientific value is also given the data through the accuracy, conciseness, and precision of the statistical method. Statistics, however, is applicable only to groups or classes,¹⁹ never individual persons or things except as they are units in the aggregate or as they may again be constituted into categories or aggregates of sub-units. Nor can statistics be counted upon to ascertain causes or undertake genetic studies of itself, except as it is an invaluable aid in the formulation of hypotheses by induction through which it reveals trends, tendencies, and relationships.

King, after commenting on the inadequacy of some definitions of statistics, formulates the following as an inclusive concept: "The science of statistics is the method of judging collective natural or social phenomena from the results obtained by the analysis of an enumeration or collection of estimates."²⁰ *Chad-dock* considers statistics "not merely technique or a branch of mathematical science." Rather, "it is concerned with a body of principles and methods developed to guide the student in assembling and handling quantitative data. It is a point of view, a method of attack. It involves measurements, countings and estimates, a careful record, intelligent groupings, discriminating analysis, logical comparisons, clear presentations, and cautious weighing of evidence. There are principles and procedures common to many different fields of the work. These

¹⁹ Cf. Ogburn in Ogburn and Goldenweiser, *The Social Sciences and Their Inter-relations*, p. 379, also Edmund E. Day, *Statistical Analysis*, p. 4.

²⁰ *The Elements of Statistical Method*, p. 23.

constitute the unity of the subject²¹ *Giddings'* concept is concise, yet comprehensive "The method of statistics must be described as a quantitative mode of the comparative and historical methods Statistical work consists largely in counting the individuals, qualities, circumstances, or habits, in any aggregation of persons or things, and in dealing by various mathematical processes, with the numbers so obtained"²² Arthur L Bowley has defined statistics as "numerical statements of facts in any department of inquiry, placed in relation to each other, statistical methods are devices for abbreviating and classifying the statements and making clear the relations"²³ And also, "statistics is the science of the measurement of the social organism, regarded as a whole, in all its manifestations"²⁴ According to Emory S Bogardus, "statistical methods are 'the principles of logic stated in mathematical terms' Statistics is applied mathematics, . The science of counting and making mathematical estimates can be applied directly to data that are 'objective,' that is, data which can be seen, measured, or otherwise observed in uniform ways by trained persons"²⁵ Chaddock has summarized "the nature and utility of statistical method" He says, "Statistics is a method of investigation which involves (1) exact measurements or quantitative estimates, (2) careful recording of results in classified form, (3) analytic scrutiny and treatment for purposes of comparison, and (4) judgment of the evidence and generalization from it where possible"²⁶

Social Statistics. The term "social statistics" has recently assumed broad significance and wider acceptance and usage This tendency is consistent with the ideal of making statistics a unifying point in all social science This designation, therefore, is legitimate and correct provided the adjective "social" is applied in the broad sense of the word as meaning anything that affects society or is related to it through any of its varied phases whether it be economic, governmental, religious, sociological, or any other aspect. There is a tendency to loose terminology, especially in a confusion of the two terms, "social" and "sociological" A "so-

²¹ "The Function of Statistics in Undergraduate Training," *Journal of the American Statistical Association*, XXI, 3 See also Edmund E Day, *Statistical Analysis*, p 2

²² *Inductive Sociology*, p 20

²³ Quoted from Horace Secrist, *An Introduction to Statistical Methods*, p 8.

²⁴ Bowley, *Elements of Statistics*, p 7

²⁵ *Making Social Science Studies*, p 61

²⁶ *Principles and Methods of Statistics*, p 38

cial" survey is not a "sociological" survey,²⁷ a "social" case history could not be rightfully termed a "sociological" case history, the science of society is certainly more inclusive than the "sociological" aspect would infer. The economist, the psychologist, the political scientist, or the historian would scarcely admit that he is a sociologist, nor may the present-day sociologist lay claim to being an economist, a psychologist, a political scientist, or an historian, yet each must utilize the statistical method and each recognizes his specialism as a social science, as is witnessed by the membership of the Social Science Research Council.²⁸ No problem in social research can be said to be wholly economic, political, or sociological, even though a problem may be predominantly one or the other. Accordingly in its application to social data, in all disciplines statistics might well be considered a scientific tool of exact measurement which, when correctly applied to quantitative data gathered and assembled by means of the various research methods in the social sciences, ascribes to such data added scientific value and validity by giving objectivity, accuracy, conciseness, and precision. By the arrangement, classification, tabulation, comparison, analysis, and interpretation of such data, statistics becomes a method of evaluation particularly useful in making clear trends, tendencies, variations, and relationships.

Allyn A. Young expresses it as "a mistake to put a fence around a narrow field, and dub it 'economic statistics' or 'social statistics,' as the case may be. Students of economics are likely to profit quite as much by studying population statistics as by studying index numbers. And who will venture to say just what portions of the field that is coming to be called 'business statistics' are not of importance to the student of economics?"²⁹ Defining statistics in its relation to the social sciences *William B. Bailey* and *John Cummings* characterize it as "the language in which social science conditions are accurately described and social laws accurately stated. It is the function of the statistician to interpret this language which is becoming the universal language of the social sciences."³⁰ Social statistics, according to *Frank W. Blackmar*, "is an attempt to measure social forces or

²⁷ See Chapter XVI, pp. 245-248.

²⁸ See Chapter IV.

²⁹ Editor's Introduction to Robert E. Chaddock, *Principles and Methods of Statistics*, p. xv.

³⁰ *Statistics*, p. I.

values in terms of numbers. Its fundamental principle is accurate counting. The first movement is to determine the given unit, and the second to notice its recurrence within a given time or given space.”³¹ *Hornell Hart*, in relating this method to social phenomena, states that it involves “characteristically the study of the correlations between socially significant variables by means of the comparison of groups of data which can be objectively measured or classified, but cannot readily be controlled for experimental purposes.”³² In defining statistics, *Charles E. Gehlke* says it is “a method of measurement, of counting, applicable to facts of social life.”³³ *Manuel C. Elmer* states that “social statistics are such statistical data as are of significance in the analysis and understanding of group activities and the inter-relationship of group activities,”³⁴ while *Bogardus* regards social statistics as “mathematics applied to social data.”³⁵ *Charles A. Ellwood*’s definition is unique in that he maintains that “the statistical method is simply that phase of the survey method which undertakes to reach exact measurements of social movements and tendencies through the tabulation, enumeration, and comparison of the facts collected by observation.”³⁶

Relational Elements of Statistical Method. The preceding viewpoints and concepts of statistics and statistical method incorporate the most important characteristics of its procedure. The basic principle is that of devising and defining the unit or units of measurement in order that there may be a common meeting ground for computations and comparisons. The data for treatment must be collective since the value of this method lies in its capacity to indicate trends, tendencies, and relationships. To secure exactness and accuracy the unit of measurement must be expressed in objective, quantitative terms. To assure further accuracy, care in gathering and assembling the data is essential, for the results can be no more accurate than the data upon which they are based.³⁷ There is a precision and niceness about the statistical method which can be secured by no other procedure and to which may be as-

³¹ *Elements of Sociology*, pp. 411-412.

³² “Science and Sociology,” *American Journal of Sociology*, XXVII, 374-375.

³³ “The Use and Limitations of Statistics in Sociological Research,” *Publications of the American Sociological Society*, XXI, 148.

³⁴ *Social Statistics*, p. 17.

³⁵ *Making Social Science Studies*, p. 61.

³⁶ “Scientific Methods of Studying Human Society,” *Journal of Social Forces*, II, 330.

³⁷ See text and references on pp. 293-298.

cribed its scientific value, but which also makes it imperative that it be not misused nor expected to accomplish the impossible Statistics as a tool and as a science of method is not a substitute for science as truth and law

Giddings does not regard the quantitative operations as the fundamentals of statistical research. In his usual concise manner, he states that, "the first step in any statistical investigation, as in inductive method applied to purely qualitative problems, is the noting of resemblances and differences. Theoretically, the statistician should ask as many questions—calling for numerical answers—as there are resemblances and differences in the subject matter of his investigation."³⁸ *Gehlke* supports the thesis that "basic in all statistical method is the exact definition of the fact measured and of the unit of measurement." And with reference to modern statistics, he holds that "the theory of probability and of sampling constitutes the theoretical basis of modern statistics. Statistical results are reliable in the degree that they are based on methods in which the mathematical presuppositions are applicable to the data used."³⁹ *Irwin Edman* lists four essentials for statistical method "(1) the collection of material, (2) its tabulation, (3) the summary, and (4) a critical examination of the results. In general, statistics can suggest generalizations, rather than establish them. They indicate probability, not invariable relations."⁴⁰ *William B. Bailey* emphasizes accuracy and completeness as the two factors on which the most stress should be laid in gathering the material for a statistical investigation.⁴¹ The need for accuracy as well as simplicity of presentation is developed further by *Charles W. Odell*. He mentions the impossibility and impracticability of always having all measures and computations exactly accurate, but asserts that "one should strive to reduce the inaccuracies or errors present until they are less than a given amount or ratio. How great this ought to be depends upon the data being handled and the purpose for which the results are to be employed." But he also warns against false accuracy—"that is to say, nothing computed from a series of measures can be more accurate than the original measures them-

³⁸ *Inductive Sociology*, p. 20.

³⁹ "The Use and Limitations of Statistics in Sociological Research," *Publications of the American Sociological Society*, XXI, 146-148. Cf. *Kate H. Claghorn*, "Use and Misuse of Statistics in Social Work," *Conference of Charities and Corrections*, 1908, pp. 236-237.

⁴⁰ *Human Traits and Their Social Significance*, pp. 405-407. Cf. *Richmond Mayo-Smith*, *Statistics and Sociology*, pp. 14-18.

⁴¹ *Modern Social Conditions*, p. 21.

selves" ⁴² Odell also emphasizes the fact "that the (statistical) methods used should be as simple and as easily understood as is consistent with the results wished. Refined procedures and complicated methods should be employed only when there is a definite reason for so doing. In dealing with measures that are not highly accurate there is frequently nothing to be gained by employing elaborate statistical procedures. In fact, their use may serve chiefly to contribute to a false idea of accuracy" ⁴³ James M. Williams likewise stresses the element of accuracy when he says, "It is particularly important for the social scientist to aim at the highest attainable accuracy, because his subject matter is of a kind that tends to stir affective judgments—a tendency which can be overcome only by the most severely scientific methods possible" ⁴⁴ Quetelet's four fundamentals in applying the statistical method were "Never have preconceived ideas as to what the figures are to prove, never reject a number that seems contrary to what you might expect, merely because it departs a good deal from the apparent average, be careful to weigh and record all the possible causes of an event, and do not attribute to one what is really the result of a combination of several, never compare data which have nothing in common" ⁴⁵

Measuring the Capacity of the Statistical Method. The value of the statistical method, as of any scientific method, depends upon the careful detail with which each step is carried out and upon its meeting the requirements as a tool of science. The method will be valid to the extent that the fundamental principles are sound and that they have been complied with. Just as the chain is no stronger than its weakest link, so it is with scientific method. If, in statistical procedure, definitions are inadequate or the unit of measurement not clearly determined, if the data are collected and assembled in a biased or inaccurate manner, if more than probabilities are assumed from the results, statistics instead of being the foremost factor in scientific advance, becomes but a broken, worthless tool. But, with the fundamental principles carried out to their logical conclusion, statistics approaches the consummation of the scientific ideal, in both the physical and the social sciences. Its

⁴² *Educational Statistics*, pp. 8-11.

⁴³ *Ibid.* Cf. Gehlke, "The Use and Limitations of Statistics in Sociological Research," *Publications of the American Sociological Society*, XXI, 146-148; F. Stuart Chapin, "Elements of Scientific Method in Sociology," *American Journal of Sociology*, XX, 371-391.

⁴⁴ *Foundations of Social Science*, pp. 449-451.

⁴⁵ From Arthur Newsholme, *The Elements of Vital Statistics*, p. 294.

contribution to the social sciences, especially in effecting unity and harmony of approach and method, and consistency and uniformity in the collection and presentation of material and results by its insistence on a scientific methodology, cannot be overestimated.

Hornell Hart believes that our failure to achieve results in the social sciences is not due to "any insoluble complexity of the data" but rather to the "lack of objective means of measuring certain important variables, and the failure to apply and develop scientific methods of generalizing from social data."⁴⁶ *F. Stuart Chapin* emphasizes this same idea when he says, "In introducing the statistical method we have introduced an inductive method. By means of certain assumptions based on the law of error and justified on *a posteriori* grounds, we have developed a means of dealing with samples of variable quantities which accurately determines, subject to certain limitations, the degree with which any sample represents the material from which it is drawn."⁴⁷ That the value derived from the use of the statistical method far outweighs the limitations is also held by *A. B. Wolfe* who writes, "Notwithstanding its expensiveness and laboriousness, and the many difficulties, both subjective and objective, to which it is heir, the statistical method is undergoing a wide and rapid expansion as an instrument of scientific investigation."

Of the desirability of extended use of the statistical method there can be no question, if only adequate technical training in the use of such methods be provided."⁴⁸ In summarizing the value of statistical training for the undergraduate, *Chaddock* makes several points which are applicable here. Statistics emphasizes the essentials of scientific method, demonstrates the interdependence of different factors in a given situation and describes relationships of cause and effect, supplements deductive processes.⁴⁹ *Edmund deS. Brunner* suggests the application of the statistical method to the social sciences to secure greater objectivity. This necessitates increasing "the number of social phenomena which can be subjected to precise measurement. This means the elimination of cloudy expressions."⁵⁰ According to *Frank W. Blackmar* and *John Lewis Gillin*, the principal pur-

⁴⁶ "Science and Sociology," *American Journal of Sociology*, XXVII, 374-383.

⁴⁷ "Elements of Scientific Method in Sociology," *American Journal of Sociology*, XX, 371-391.

⁴⁸ *Conservatism, Radicalism and Scientific Method*, pp. 243-245.

⁴⁹ "The Function of Statistics in Undergraduate Training," *Journal of the American Statistical Association*, XXI, 7-8.

⁵⁰ "Notes on Some of the Uses for the Statistical Method in Social Investigation," *Journal of Social Forces*, III, 256-259.

poses served by statistical treatment of social phenomena are the "static" and the "dynamic." The first is a picture of society and its various relationships at a given time while the second recognizes the constant change of society. Since society is constantly changing, the static purpose is never exactly realized. The dynamic is, therefore, the more important and really "represents a series of static views of relationships put together in natural relationships" and "its success depends a good deal upon the accuracy of the successive static views which one may take of the subject"⁵¹ From the dynamic point of view it might also be said with Hart that "the statistical method of approaching the purposes of social science is . . . to develop by means of regression equations or of equivalent method formulas stating the amounts of change in given desirable or undesirable social conditions which accompany given changes in other conditions correlated therewith which are subject to social control"⁵²

Limitations of the Statistical Method. The value of the statistical method in quantitative analysis and in the establishment of objective standards in the social sciences is so apparent that its limitations are at times overlooked. It is often assumed that every research problem has a statistical answer and unless it is so answered cannot be considered worthy of the name of scientific research. That this is fallacious has already been shown, since it is generally accepted that as yet there is much material in both the physical and the social sciences that is not amenable to statistical treatment⁵³ It may also be well to repeat that statistics is valuable in the formulation of hypotheses, in exhibiting trends, tendencies, variations, and relationships, and in establishing correlations. Likewise mere objectivity in classification may neglect the chief factors and forces involved. Furthermore it is essentially a process of probability from which knowledge is approximated. And in addition the complexity and variability of the data render it difficult to determine the unit of enumeration. These difficulties, however, are not greater than those overcome by the physical sciences and are by no means insurmountable⁵⁴ In fact,

⁵¹ *Outlines of Sociology*, pp. 580-581

⁵² "Science and Sociology," *American Journal of Sociology*, XXVII, 374-383

⁵³ See Chapter XV. Cf. Gehlke, "The Use and Limitations of Statistics in Sociological Research," *Publications of the American Sociological Society*, XXI, 141-142; Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p. 9

⁵⁴ Cf. A. L. Bowley, *Nature and Purpose of the Measurement of Social Phenomena*, p. 7.

many obstacles, at one time regarded as permanent, have already been eliminated, while others are gradually being eradicated accompanied by the increasing application of the statistical method to social data, but still in combination with other methods. And here it is important to emphasize again the obligation of scientific method to initiate new techniques and measures.

Horace Secrist asserts that "at best the statistical is but one of many approaches in the explanation of phenomena. Its limitations are definite and certain, and its use in all cases should in no sense be considered valid. Statistics may often be used to corroborate conclusions arrived at by other methods, and it is in this respect, probably, that their greatest value lies. Many questions do not admit of statistical treatment at all, while respecting others, statistical considerations are of minor or of no consequence."⁵⁵ *Bowley* emphasizes the difficulty encountered in devising units of measurement.⁵⁶ *Chaddock* has emphasized the need for safeguarding the statistical method with seven notations. Original data are trustworthy only when approved methods of collection are employed, sound facts are frequently made the basis for unwarranted inferences, compare by means of quantitative measures only such data as are really comparable, it is never safe for purposes of comparison to accept published statistics at their face value without careful scrutiny of their limitations; when dealing with a small number of cases, the use of percentages alone leads to wrong impressions, half-truths or quarter-truths should not be accepted as whole-truths simply because supported by evidence in numerical form, when several factors are involved in producing a specific result, conclusions should not be drawn from the measurement of only one factor.⁵⁷ *Gehlke* lists among other factors, with reference to the statistical method, these limitations. Social phenomena cannot be repeated under the same circumstances, since certain facts in society, as in nature, are not, at least at present, measurable, we must constantly combine the statistical and the non-statistical data in order to understand causal relations, statistics is a very costly method of investigation, increasingly beyond the power of the individual investigator for that reason.⁵⁸ *Lucian M. Bristol* cautions that "the statistical method, of utmost value

⁵⁵ *An Introduction to Statistical Methods*, p. 10 Cf. Mayo-Smith, *Statistics and Sociology*, pp. 14-18, Edmund E. Day, *Statistical Analysis*, pp. 5-6

⁵⁶ *Nature and Purpose of the Measurement of Social Phenomena*, pp. 7-11 Cf. Blackmar and Gillin, *Outline of Sociology*, pp. 580-581

⁵⁷ *Principles and Methods of Statistics*, ch. II

⁵⁸ "The Use and Limitations of Statistics in Sociological Research," *Publications of the American Sociological Society*, XXI, 148

when used with scientific insight, has been misused more than any other, for its fallacies are less easily observed by the uninitiated. This method gives us at best only correlations and conditions, not causes, and too often the phenomena compared are not sufficiently alike to warrant the conclusions drawn from the comparison. The results obtained from this method are valid only in proportion as all other things are equal save in one point of comparison, and this is difficult to obtain in social phenomena.⁵⁹ *A. B. Wolfe* emphasizes difficulties both in the gathering and analyzing of statistical material, the labor and expense involved in the method, and the necessity for employing "intricate technical methods of calculation and inference," all of which make possible errors and inaccuracies.⁶⁰ *James M. Williams* holds that "statistical exactness is the scientific ideal. But problems of behavior in which conscious states are determining motives possibly never can be subjected to statistical treatment, because such states 'are not a direct mathematical function of any objective quantities'."⁶¹ *Hornell Hart* gives two reasons why the statistical method has not been more successful in placing social investigation upon a soundly scientific basis. "First, a large proportion of persons engaged in social investigations do not understand the use of the method. Second, the crude method is not adequate to the solution of social problems." He lists further three defects which limit the usefulness of crude statistical comparisons in their application to social science: false assumption of the constancy of "other factors than the two variables considered in a given comparison", there is no indication of the relative importance of variables, no method of comparison between the results of a limited investigation and one prolonged indefinitely. But the methods of correlation and regression diminish these difficulties.⁶²

Observation, Description, and Statistics. Statistics as the chief recording instrument of observation gives quantitative form to description. Description, once the generally accepted procedure for presenting all data, is now largely supplemented by statistical analysis. There is, however, no conflict between the two, nor has one supplanted the other. Accurate description is as valuable and as important as ever, it has simply been strengthened by statistics.

⁵⁹ *Social Adaptation*, pp. 43-46.

⁶⁰ *Conservatism, Radicalism and Scientific Method*, pp. 243-245.

⁶¹ *Foundations of Social Science*, pp. 449-451.

⁶² "Science and Sociology," *American Journal of Sociology*, XXVII, 374-383.

Cf. Brunner, "Notes on Some of the Uses for the Statistical Method in Social Investigation," *Journal of Social Forces*, III, 256-259.

Description deals largely with generalities or qualitative portraiture, while statistics is quantitatively specific and explicit. It is much more graphic, as well as accurate, to give the per capita wealth in the United States in comparison with the per capita wealth of other nations than it is to state merely that the United States is a rich country, or that it is richer than Great Britain or France, or the infant mortality rate in terms of deaths of children under one year of age per one thousand born during a particular period rather than that the infant mortality rate is high or low. It is description, however, sometimes accompanied by exploration, that, through generalities, demonstrates the need for specific information. Description has always had its place and will always have its place. No results can be presented without it, for even the most careful and most accurate statistical analysis must be assisted in the interpretation and presentation of results by description. There are data, too, for which units of measurement have not yet been devised, and until such units are available, all such data are presented descriptively. However, the mistake must not be made of "following the line of least resistance," and the research specialist must be quite sure that his material cannot be put into objective, quantitative form, before he relinquishes statistical presentation for purely descriptive treatment. When this procedure is followed conscientiously, painstaking description supplemented by accurate statistical interpretation becomes a worthy tool in the hands of the social scientist. Illustrations of the statistical contribution and supplement to description in the various disciplines are abundant.

John A. Fairlie considers the interrelations between statistics and politics with reference to "(1) the governmental agencies for the collection of statistical data, and the statistical data on political and governmental organization and activities, and (2) the scientific analysis of political statistics." He mentions the need for better correlation and standardization of statistics with reference to election returns, crime and criminal justice, state and municipal finances, education, and a wider application of statistical method to the problems of political science.⁶³ According to *Harold U. Faulkner*, "to-day the historian finds that statistical data, accurately arranged and intelligently analyzed,

⁶³ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, pp. 279-298

are quite often his most important asset in reconstructing the past and interpreting the present." The advance and application of statistical technique implied an entirely new concept of history which "had to expand to include an infinite variety of subjects hitherto neglected." Statistics has not only given greater accuracy to historical research, but has widened its scope. Most important of all, it has lent "valiant aid in stimulating the development of economic and social history, a tendency which has given to that ancient study a new purpose and a new youth."⁶⁴ "The contributions of statistics to the science of economics depend," writes Warren M. Persons, "first, upon the scope, nature, and continuity of the available quantitative data relating to the production, stocks, exchange, distribution, and consumption of wealth, and, second, upon the development of appropriate statistical methods for handling the particular numerical data—such as time series—and the particular problems—such as the measurement of the influence of each one of a group of factors—with which economics is concerned."⁶⁵ Wesley C. Mitchell states that "the increasing complexity of economic organization makes more pressing (the) need of definite knowledge of (the) requirements and resources for meeting them."⁶⁶ In discussing the essentials of statistics as applied to sociology, Arthur Bowley says, "The general problem of sociological statistics is to define or delimitate and enumerate classes, to specify attributes or characteristics of the members of these classes, to measure these attributes and describe their variation, and to discover relations and causal connections. In other words, we have to regard society as an organic whole, and give a reasoned quantitative description of all its parts."⁶⁷ With reference to the quantitative approach in psychology, Floyd N. House may be quoted "A great deal of research effort has been devoted . . . to the invention, refinement, and utilization of quantitative tests—tests of 'intelligence,' of 'will profile,' of 'temperament,' and of special aptitudes." The army intelligence tests with their great body of data have raised the question as to the "significance of the data obtained by means of such tests"—that is, whether the results are closely "correlated with native and inherited individual differences" or whether, in addition, there is also a correlation with "common differences in culture background." . . . "The prevailing current attitude, on the question of the relation of original nature to performance in mental tests, may be characterized as one of lively interest, but of inconclusive

⁶⁴ *Ibid.*, ch. xx

⁶⁵ *Ibid.*, ch. xv

⁶⁶ "Quantitative Theories in Economic Analysis," *American Economic Review*, XV, 2.

⁶⁷ *Nature and Purpose of the Measurement of Social Phenomena*, p. 7

findings”⁶⁸ According to *Franz Boas*, “the task of the statistician in studying anthropology is the disentangling of the conditions which bring about variation” He mentions, as illustrative of his statement, three kinds of variation—variability in function, variability in form, and time variability⁶⁹

Statistics and Analysis. Statistics as the coordinating factor in social research is applied to the various specialisms by means of the different research methods Statistics not only paves the way for accurate interpretation, it also excels in the technique of analysis As has been shown, description acquired added weight and authenticity when supported by statistical evidence, observation finds ample classification and measurement, the scope of history both as method and approach has been widened A survey is incomplete until the raw material as collected by the schedule or questionnaire has been assembled, classified, tabulated, and interpreted by means of statistical analysis So closely are the survey and the statistical method related that *Ellwood* has defined statistics as a form of the survey⁷⁰ Experimentation is likewise made more valuable by the aid of statistics Especially would this be true if an experiment was preceded and initiated by a survey, then followed by similar surveys made from time to time during the process of the experiment to indicate at least in some measure the progress of the experiment, by a comparison and correlation of the statistical results of the various surveys Statistical treatment, when it is possible, is also a valuable adjunct to the case method, especially with the increase of measurable concepts for qualitative data But in the zeal for standardized, measurable results, care must be exercised not to carry this method to the point of absurdity, as can be done by ascribing correlation where none exists, or formulating invalid hypotheses by failing to take into account the many variables in social research.

Floyd N. House posits the thesis that the statistical method can never supersede entirely the descriptive even though “it appears to be the natural tendency of all scientific method to become quantitative Before quantitative determinations can be extensively made, however, a great deal of descriptive work will have to be done In order to arrive at quantitative analyses of

⁶⁸ *The Range of Social Theory*, ch x

⁶⁹ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, ch x

⁷⁰ See p 292

human social events which will account for what actually takes place, it is necessary to study the events themselves for the purpose of formulating descriptions of the processes in and by which the events are determined. Such descriptions must be realistic, in the sense that they must incorporate all of the forces which are actually operative."⁷¹ Wesley C. Mitchell believes that, because of the variability and complexity of the data, experiments in the social sciences will have to develop a different technique from that of the physical sciences, and that much more depends upon statistical considerations since social experiments must be repeated again and again. "The experiments must be repeated upon numerous individuals or groups, the varieties of reactions to the stimuli must be recorded and analyzed, the representative character of the samples must be known before generalizations can be established. This whole procedure may have more in common with the quantitative study of data drawn from common experience than with the procedure of the man who deals with electric currents passing through a vacuum tube." He says further, "In collecting and analyzing such experimental data as they can obtain, the quantitative workers will find their finest, but most exacting opportunities for developing statistical technique—opportunities even finer than are offered by the recurrent phenomena of business cycles."⁷² Summing up it might be said with William F. Ogburn that nearly all methods of research in the social sciences point toward statistics as an ideal. "Thus, the descriptive method is more accurate the more statistical it is. The historical method as it is applied to recent events makes more use of statistics. The case method, as it ceases to have the individual case as its objective and as it is used more for summaries and generalizations, becomes statistical. The few experiments possible in the social sciences can be tested adequately only by statistics. Even the theoretical and the analytical methods are dealing more with the construction of hypotheses that must be verified by statistics. It is not by preference but because of practical limitations that these other methods are used instead of statistics."⁷³

Statistics and Special Social Problems. Illustration of the statistical study of special problems, if we accept the verdict of the foregoing pages, is merely a matter of selection and example. For wherever there is a larger problem for research, there will be

⁷¹ "The Limitations of Economic Analysis," *American Journal of Sociology*, XXXII, 936

⁷² "Quantitative Analysis in Economic Theory," *American Economic Review*, XV, 8-9

⁷³ *The Social Sciences and Their Interrelations*, pp. 380-381

the task for analysis and measurement We may illustrate, however, with two special types of statistical attack One is the application to the special illustrative problems of this volume of Franklin H Giddings' emphasis not only upon the usual objective measurements and countings, but also upon a quantitative mode of measuring resemblances and differences and especially of "societal energies" Thus, "Adequacy, and therefore the ultimate effectiveness of societal energies, is measured by two sets of correlations, namely (1) The negative correlation of birth rate and the positive correlation of death rate with hereditary defect. (2) The positive correlation of birth rate and the negative correlation of death rate with conditioned intelligence These correlations measure the net value of human society, the net value of the existing, or of any possible societal order They are a *value* measure of progress" Now, keeping this objective measurement in view, the specific application is to be made to peoples, population groups, families, and particularly to situations in the Southern regions In order to see the tremendous sweep of such a "quantitative formulation" and its practicability to the problems to be analyzed, we need only glance at Professor Giddings' own concept of the range of application "They should be ascertained," he says, "not only for entire populations, but also for component and constituent groups, because the shifting of these, when so measured, will indicate the trend of our civilization They should be ascertained for colour races, for the native and foreign born, for nationalities, for local communities, for kindreds and families, for the adherents of religious sects, for the alumni of colleges and universities, and for occupations" ⁷⁴

The second application of this quantitative study is that of our illustrative problem of war We have already referred to the brilliant application to the problems of war of the historical technique of investigation through the critical examination and utilization of documentary evidence The range of statistical research in this field is almost unlimited, both in the general quantitative measurement of factors and in the working out of analyses and correlations of many kinds A simple illustration of the costs of the world war may suffice R. L Duffus attempts to measure some of the war costs in terms of actual expenditures, losses of all sorts during the war period, and after-war costs and

⁷⁴ *The Scientific Study of Human Society*, p 207.

penalties His exercise in measurement is suggestive of the detailed statistical analyses which might be carried much further Reaching the conclusion that government expenditures alone amounted to at least 40 per cent of the national wealth of the most important countries concerned, he estimates that "our calculations have fairly begun" He quotes the Carnegie Endowment for International Peace which estimated the destruction of property "on land at \$29,960,000,000, at sea at \$33,551,276,200, the loss in production at \$45,000,000,000, the cost of relief work at \$1,000,000,000, and the damage done to neutrals at \$1,750,000,000 To the total thus obtained it added \$67,000,000,000 as the money value of the human lives lost because of the war Estimates of the number of lives lost, like estimates of money cost, vary considerably After the armistice it was computed that 57,400,000 men had been mobilized, 17,000,000 had been wounded, and 7,500,000 had been killed or had died of wounds Nearly 7,000,000 more were reported missing or in prison, and many among this number were actually dead The Carnegie investigators put the total soldier dead at 13,000,000"⁷⁵ Another thirteen million civilian dead and very large quotas of the unborn run the estimate on and up to \$337,946,179,657, to which the estimates of after-the-war costs added brings an aggregate of \$650,000,000,000 Adding to these costs the still further penalties of injuries, lost energies, diminution of wealth, deficiencies in increment, and the "tragic interruption of humanity's stride toward peace and plenty," there is a final estimate of one thousand billion dollars And still we have not begun the measurement of the societal energies and value measures of progress among the peoples of the war countries

⁷⁵ Prepared for *The New York Times*, summarized here from *The Columbus-Enquirer-Sun*, December 13, 1928

CHAPTER XIX

TYPES OF METHOD: THE SCIENTIFIC-HUMAN

If we come now to review and appraise our introduction to social research there appear two major problems to be worked out. One is the problem of synthesis, unity, and interrelation among the various approaches and methods, and the other is the problem of inaugurating and establishing upon a firm basis the scientific method in research into human affairs. Each of these problems presents unusual difficulties and reveals numerous aspects to be considered. At the same time the weight of our evidence indicates that neither problem has been worked out with any large degree of success, although important beginnings have been made. An examination of the general meaning, scope, and application of general science, and a similar examination with reference to the social sciences, has indicated clearly a lack of any uniformity and dependability. The methods of science simply have not yet been applied to the study of human society, whether in the discovery and measurement of phenomena, in their analysis and interpretation, or in initiative and inventiveness required for the development of method and technique themselves. The characterization of the scientific-human, therefore, as a fundamental concept in method and approach is not merely an exercise in terminology or an effort toward literary phraseology. The scientific-human method and approach is in reality, for the time being, a synonym for attainable standards in social research. It is, as it were, an equivalent of the concept of a new period of cooperative socially scientific experimentation. It may serve as a sort of hypothesis in synthesis and methodological inventiveness. It is, for illustration, Wesley C. Mitchell's *way of doing a thing*, John Dewey's truth only if it is permanent and *works out*, Franklin H. Giddings' social theory, as theory, only if it *works*, Edmund E. Day's *purposive scientific work*, in which the way, the truth, the theory, and the work apply to the whole field of human phenomena and social relations. It is, in other words, the problem of successful social research in

whatever way attained. Some of the special considerations involved in this problem of synthesis and method include those of diversity and antagonisms in the social sciences, the appraisal of the telic character of social research and social science, the recognition and treatment of social phenomena and forces as essentially distinctive entities, the appraisal and mastery of the human factors in social research, the recognition and mastery of essential relations and differences between the physical and social sciences, the development and training of personnel adequate for the problem, the adaptation and utilization of common-sense methods and mechanical means to the purposes of social research, and the mastery of the larger problems of analysis, interpretation, and presentation of the products of social research through institutions, agencies, and applied disciplines. These will be examined in varying degrees in the remaining parts of this book.

Diversity and Antagonisms. Alongside a brief analysis of the several approaches we have noted certain tendencies of the social disciplines toward cooperative research and toward agreement in general viewpoints and methodology. Actual status, however, shows great lack of agreement among the representatives of each discipline and among the several disciplines themselves. This has been observed in the approaches which tend to utilize social philosophy, social biology, social anthropology, political science, jurisprudence, economics, sociology, human geography, in the study of society in its various aspects. Similar diversity will be found in other approaches, the scientific aspects of education, of religion, of public welfare, of social work, and of various phases of literature and "humanism." What is startlingly concrete is the fact that in no one of the social sciences does there seem to be unanimity or even general agreement concerning definition, scope, method, or objectives of its own research or concerning the appraisal of other social sciences. Alongside this diversity is found also a certain amount of antagonism, thoroughly out of accord with the scientific attitude and method. Furthermore, this status is accepted as a rather matter of fact corollary of the present stage of development of the social sciences. Appraisal of the social sciences by the physical scientists and of the physical sciences by the social scientists shows similar diversity and lack of sympathetic understanding or of the scientific spirit. Manifestly there

is here a real problem underlying the future development of science as applied to human phenomena and to the products of physical science upon human culture

Evidence in support of this thesis will be found in the several chapters dealing with approach and method. Other examples to bear out the above observations are abundant in prevailing textbooks, learned periodicals and conference discussions. Citation is a matter of choice and limit. It is interesting, for instance, to note so wide a divergence of concept in so old a discipline as history. "History may be known and read of all men," suggests *A. T. Olmstead*,¹ "but its definitions and its content are still matters of earnest discussion," in support of which one need only witness vigorous writings and voluminous literature on the "new" history, on history as science, and many other current points of emphasis. Or take the subject of social psychology which *Kimball Young* finds it necessary to remind us is "experiencing some especial difficulties in the definition of its scope and method."² *L L Bernard* repeats that "at whatever point we settle the limits of psychology—and we shall not be able to determine them to every one's satisfaction—our discussion clearly shows that there is no clear-cut distinction between this and neighboring sciences."³ And consider the tremendous range of difference between the classical political scientist's concept of politics and *Floyd H. Allport*'s classification of it as a natural science which "makes political science and behavioristic psychology become one and the same thing."⁴ In between these extremes would be *A. N. Holcombe*'s dictum that there is universal agreement among political thinkers that the data of politics are the acts of men, but no agreement as to the source from which the data are derived,⁵ or *Allyn A. Young*'s conclusion that the behavior of the political man may well constitute an important field for scientific inquiry.⁶ Again, *A. B. Wolfe* thinks that any attempt to define sociology is sure to be unsatisfactory⁷ and *W. F. Ogburn* expresses the same opinion when he says "Definitions of the scope of sociology are likely to be unsatisfactory, for sociology is in a formative state, and its outlines are neither stable nor definite. Most definitions of sociology are

¹ W. F. Ogburn and Alexander Goldenweiser, *The Social Sciences and Their Interrelations*, ch. iv.

² H. E. Barnes, *The History and Prospects of the Social Sciences*, p. 157.

³ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p. 349.

⁴ *Ibid.*, p. 277.

⁵ *Ibid.*, p. 189.

⁶ "Economics as a Field of Research," *Quarterly Journal of Economics*, XLII, 1-25.

⁷ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p. 300.

what the makers of the definitions think that sociology ought to become”⁸ Likewise John Dewey is sure that there is far from being a consensus of opinion regarding the significance for moral theory of economic anthropology⁹ and Franz Boas is sure that there is much ground for dissent from the eugenist’s conclusions based upon his definiteness and concepts of heredity and environment¹⁰ Even more unsatisfactory is the attempt to define the fields of the several social sciences in terms of a single term or objective Anthropology the science of *man*, psychology the science of *mind*, economics the science of *wealth*, politics the science of *government*, sociology the science of *society*, biology the science of *life*, ethics the science of *conduct*, statistics the science of *numbers*—all these and others are unscientific when we note the range of meanings ascribed to mind, wealth, man, and the other concepts But whether in general definitions and concepts or in concrete methodology the road to the real scientific method will be found in the diminishing antagonisms which arise from the dogmatic insistence upon scope, concept and method which are themselves still in the processive and orientating stage For, “our work is retarded,” says Young, “and our intellectual energies are dissipated in useless quarrels because of our intolerance of methods and points of view other than our own There are only two things of which we have a right to be intolerant first, positive errors of fact or inference; second, intolerance itself”¹¹

The Telic Character of Social Research. One of the first fundamental considerations basic to the scientific method in social research is the recognition and appraisal of the essentially telic nature of social science Manifestly this is not merely a matter of superficial distinction between pure and applied science It goes much more deeply into the organic structure of the whole of social science and the phenomena with which it deals It has to do with the very nature of the phenomena themselves, which are determined, conditioned, and characterized often by the changing processes of social interaction, relations, and purpose Again the “purposive” element in social research is not merely the matter of volition on the part of individuals or of the utilization of science for human betterment, but the all-inclusive process of evolution and direction of social destiny Social science must be *science* but

⁸ *Ibid.*, p. 379

⁹ *Ibid.*, ch. III

¹⁰ *Anthropology and Modern Life*

¹¹ “Economics as a Field of Research,” *Quarterly Journal of Economics*, XLII, 6

manifestly it must be *social* also which means that its data are found in human relationships, which in turn means variability scarcely amenable to any fixed or formal static methodology. Thus the changing processes and relations which create social phenomena in turn are controlled by the discovery and utilization of those phenomena which in turn re-create new phenomena for the social sciences. Examination of the history and development of the social sciences, in contradistinction to the development of the physical sciences will reveal essential differences between current social science and earlier efforts clearly due to the development and the increasing complexity of human society and social relationships. The physical sciences on the other hand are not faced with a changed array of physical elements nor has the scientist expected or intended to change nature. The social scientist, on the other hand, does expect that his science will be inseparably related to social development. Allport goes so far as to set up "control over social change" as one of three goals of scientific measurement,¹² while Allyn A. Young says that "in any complete view, the realm of the phenomena of organized society and the realm of ends are coterminous," and again "I believe that social wisdom as well as better knowledge of ways and means ought to be one of the goals of research in the social sciences."¹³

Various special aspects of the telic character of social research will be implied and suggested in later sections of this chapter while some general considerations have already been presented in our previous chapter on "The Physical and Social Sciences." There are so many angles to its presentation and so many effective illustrations of the point in question that it will be difficult to select the best samplings to state the case. Allyn A. Young in the reference above cited makes some excellent points. Assuming that every occurrence in the contemporary life of society enters into two separate sets of relations—first, a phenomenon, a scientific datum, and second, a due weight in a system of social values—he holds that "so far as the knowledge which the social sciences yield has instrumental value, it serves social ends and leads to modification of human arrangements." In similar fashion Morris R. Cohen sees a unity in social science "not in the widest law of causal sequence, but in such conceptions of the ultimate social ends as will make possible a coherent science

¹² Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p. 272.

¹³ *Op. cit.*, pp. 3, 25.

or system of judgments of human conduct”¹⁴ *L L Bernard*, estimating that the primary function of the social sciences is “to assist man in making his adjustment to his world,” holds also that “the content of the social sciences is the technique, in theory and in practice, of the adjustment processes”¹⁵ And Franz Boas ventures the opinion that “a clear understanding of the principles of anthropology illuminates the processes of our own time and may show us, if we are ready to listen to its teachings, what to do and what to avoid”¹⁶ Here again, as in scores of other instances, we have not merely the dictum of applied science—we may even adhere to the spirit of “pure” science, oblivious of what is to become of its inquiries—but rather the indissoluble union of social science with social development What society becomes depends in large measures upon what social sciences do, and what social science becomes must depend largely upon what society becomes and does—certainly a telic challenge to scientific synthesis and method.

The Social Sciences Different from the Physical Sciences. Further aspects of the telic nature of social research and of its particular problems in synthesis and method may be seen from an examination of the essential relations and differences between the physical and the social sciences Recent tendencies toward the closer alignment of the physical and social sciences offer one of the most striking modes of progress toward the desired research synthesis However, certain marked limitations to the too close interrelation and organic analogy between the physical and social sciences, may be often in danger of being overlooked The problem, therefore, is one of drawing upon the unity of all science—of the social and the physical—without at the same time confusing similarities, causal relationships and essential unity in law, with identity and sameness We have noted already in the chapter on The General Analogical Approach, and in many of the other types of approach, the unscientific results and wasted efforts which come of the old organic analogies and methodologies In so far as a similar merging of the physical and social sciences is being considered the current movement is retrogressive But where the relations between the physical and social sciences are matters of actual basic relation and logical law and sequence the new correla-

¹⁴ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p 447.

¹⁵ *Introduction to Social Psychology*, pp 9-10

¹⁶ *Anthropology and Modern Life*, ch 11

tions and alignments constitute an important next step. Thus social biology is essentially scientific and effective because it is built upon physical biology and its value lies in its being therefore different and not identical. Social psychology, social anthropology, social geography, are in the same category. The newer premium placed upon the physical sciences by the social sciences is almost exactly the opposite of the old organic and analogical identities. Thus conduct and behavior of human beings, in so far as they draw upon biology or anthropology for valid contributing scientific evidence, are not characterized by some metaphorical analogy between the doings of the human body, or the actions of animals from which the social sluggard must profit, but by fundamental and vital processes through which internal and external behavior patterns find their genesis and development. It comes to pass, therefore, that both strength and weakness might derive for the newer synthesis from the appraisal of the interrelation between the physical and social sciences. In the appraisal and mastery of the essential basic data of the physical sciences lie unused contributions of great importance. In the confusion of relationship and contributing elements with identity, and in the failure to recognize social phenomena as social entities, lie continued roads to failure. The road to successful achievement in social science, therefore, will be found in the recognition and mastery of essential differences between the physical sciences and the social sciences without, nevertheless, in any way discounting basic contributions and data.

Here again, samplings may be so numerous and well distributed among the various social disciplines as to make adequate selection difficult. Thus *Paul T. Homan* observes with some impatience, perhaps, that "the day is quite past when economics need test its scientific character by analogy to some extraneous discipline,"¹⁷ and *Allyn A. Young* emphasizes comprehensive differences between the social and physical sciences. The social sciences have to be distinguished from the physical sciences, he says, "not only because the phenomena with which they deal are more complex, because their data are less exact, and because the experimental method which the more rigorous physical sciences employ is generally not available to them, but also because they encounter problems of orientation which are peculiar

¹⁷ "Issues in Economic Theory," *The Quarterly Journal of Economics*, XLII, 333-365

to them and from which the physical sciences are free”¹⁸ Again Young cautions against unreasonable expectations from the methods of physical science “There appear to be some who think that through research, and research alone, the social sciences might be as completely revolutionized in the course of the twentieth century as the physical sciences were during the nineteenth. As a result, we are asked to believe, society would be in command of its own destinies, in the same way that, in a sense, man is getting a better command of the forces of physical nature. Now all of this seems to me to rest upon a failure to see certain fundamental differences between the physical and social sciences, and especially upon a misapprehension of what we really mean when we speak of “controlling the processes of nature.”¹⁹ There is also evidence here of a paradox in the insistence of some social scientists on the methods of pure physical science and at the same time the expectation of great telic control over social nature. Frederick Barry makes an important distinction in noting that the methods of the social sciences “are as various as the facts with which they deal, and their organizations range from those of exact and inclusive correlation in terms of sharply definable concepts to those of loose classification or of mere description.”²⁰ Morris R. Cohen expresses the same general viewpoint when he refers to the subject matter of the social sciences as “inherently more complicated in the sense that we have more variables to deal with than in physics or biology,”²¹ and John Dewey warns against simple deductions in the midst of progress in scientific method and knowledge, advance in economic invention and control, complexity of political and legal institutions, and all the other advances which complicate the whole range of human experience and variability of human phenomena.²² Michael Pupin protests any tendency to sum up the world as so much matter and so much motion or as merely time and space.²³ Oswald Spengler protests a mechanical method which would collect all the works of all the dead cultures, depriving each individual piece of that instant of actualized purpose that is its own.²⁴ Joseph Mayer calls attention to another distinction when he refers to the physical sciences as being based on nature’s scientific building of the material universe and the social sciences as being based upon

¹⁸ “Economics as a Field of Research,” *The Quarterly Journal of Economics*, XLII,

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¹⁹ *Ibid.*, p. 24

²⁰ *Development of Scientific Thought*, p. 3

²¹ Ogburn and Goldenweiser, *The Social Sciences and Their Interrelations*, p. 452

²² *Ibid.*, p. 33

²³ “Our Industrialism and Idealism,” *Scribner’s*, LXXXIII, 659-664

²⁴ *The Decline of the West*, p. 135

man's unscientific building of the social structure²⁵ Another angle of the complexity of the social situation is described by *Nicholas Murray Butler* in his view of science and society "The scientific method is everywhere extolled and within certain limits is rigorously applied Yet the public mind, reinforced each year by a veritable army of youth which is marched through scientific laboratories and lecture rooms, museums, and observatories, is as untouched by scientific method as if no such thing existed Even the men of science themselves, when out of sight of their own laboratories, betray the most astounding willingness to become the victims of rumors, dogmatic assertions, and emotional appeals of every sort The fact of the matter would seem to be that scientific training and scientific method, despite all the time and labor and money that have been lavished upon them, have thus far failed to take hold of the minds and temperaments of vast numbers of those who have been offered scientific training in greater or lesser part Reflection on these exceptionally interesting facts prompts various queries and suggestions Part of the difficulty may be found in the fact that science has been suffering from what may be described as a superiority complex which has prevented it from realizing its true place in the scheme of things There is certainly no region or realm into which science does not or ought not to aim to penetrate, *on the plane in which science moves* But that plane is, as every scholar in the field of human thinking must realize, a subordinate one "²⁶

Distinctive Nature of Human Phenomena. The crux of the scientific-human method, therefore, is found in the distinctive character of human phenomena Simple illustrations are abundant We have already called attention to the inadequacy of the laws of biological evolution, effective as they are in the natural realm and in building up the groundwork for the study of social evolution, for the explanation of evolution on the social level Evolution is an important principle and there are great gains to be derived from it for the study of human society The comparative study of anthropoid apes is of much importance in the search for basic factors in cultural evolution and behavior patterns Nevertheless, man is different from the other animals and, as a scientific datum, human behavior and human culture are different from anything else in the realm of association As such, no matter what the interrelations and causal relationships between the social phenomena and their physical backgrounds, the problem of the

²⁵ *The Seven Seals of Science*, p 6

²⁶ President's Address, 1927

social scientist is to evolve methods and technique for the explanation and mastery of these phenomena. The chemist knows that H_2SO_4 and TNT are made up of certain relatively simple elements in varying combinations and relationships. He is, however, under no illusion that sulphuric acid or the super-explosive are one and the same with the simpler elements. The chemist is not inclined either to bemoan the fact that the methods for handling the simpler elements will not work for the complicated products, nor to assume that because the ones he has used on the simpler components will not work for the more complex, that therefore there are no adequate methods possible. The extremes to which the "logical" scientists sometimes go in their systems of explanation and "control" of all nature and society has often led to confusion as to the meaning of mechanistic foundations for human behavior. Again the simple illustration—the master paintings result, of course, from physical ingredients merged and harmonized in colors and technique of form and proportion. Nothing in the physical properties, however, will help the scientist to explain fully the subjective and internal patterns through which the painted picture becomes a standard, a force, an ideal, nor will it explain the concept and the mastery which enables the artist to achieve new standards in esthetics. The product of art is entirely a separate entity. Likewise music may be explained through certain underlying laws of physics, and physical science may be turned into art in the contriving and manufacture of musical instruments. But the power of music upon the individual and the group, and the aptitudes and genius of the musician are on a different plane and are of a different sort. Human beings who achieve mastery in art, literature, science, or leadership, have gained distinction in some measure through the nature of their physical hygiene, food, drink, vitamines, general regimen, and yet the human products, beauty, style, love, aspiration, appetites, patterns, behavior, are not measured and directed by the simple rules of digestion and assimilation. It is as if the politician running for office, knowing that his election must come from the actual counted votes of his constituents, should proceed simply to write down and add up the physical numbers of his constituents, regardless of the psychic and social phenomena upon which his votes are gained or lost. These and other simple illustrations might seem utterly

commonplace except for the considerable vogue of the concept that social phenomena must be explained and directed by the same methods as the physical, or that because we have not been able to cope with the variables and complexity of human phenomena through the usual methods, there may not be, therefore, a science of human relations. And even so we have arrived only at a re-statement of our problem with nothing more definite, for instance, than the *Spenglerian* dictum that a "physiognomic that is precise, clear and sure of itself and its limits has never yet arisen, and it can only arise through the discoveries of method that we have yet to make. Herein lies the great problem for the twentieth century to solve."²⁷ As a matter of fact the thesis of this chapter is that the discovery and application of adequate scientific methods in social science is the problem of the century and must be achieved first of all by the recognition of the essential quality of human phenomena.

Speaking for the social science of economics, for instance *Homans*, repeating the commonplace that planets are not corporations and persons are not atoms and cells, reminds us that "our subject matter is human beings and the groups they form, the aims they set up, the social devices they invent, the lines of action they pursue. The subject matter is unique, and the scientific problems equally unique. Our scope, methods, and purposes . . . must be sufficiently comprehensive to provide a technique as varied as the subject matter requires"²⁸ Even the fortunes of economic theory have run the gamut of theory relative to the stability or variability of human nature. And human nature and personality come in for a large portion of the whole field of social phenomena. There is the ratio of psycho-physical structures inherited compared to the external conditioning by environment and human culture. Again, this human field includes the study of infants, of primitive folk, of cultures. Culture itself, an exclusively human product, is sometimes said to be the chief subject matter of social science. And then there are the pathological aspects of human civilization, quite distinctive from other phenomena but such as to afford a large body of scientific data and inquiry. In the make-up of our human phenomena also are the cumulative elements of tradition, learning and experience, which in turn condition both the nature of social relationships and our records of them. In-

²⁷ *The Decline of the West*, p. 105.

²⁸ "Issues in Economic Theory," *Quarterly Journal of Economics*, XLII, 364.

deed much of social recording has been similar to Spengler's concept of history. For, he says, "The countenance of history is made up of all those things which hitherto we have only managed to evaluate according to personal standards, i.e., as beneficial or harmful, good or bad, satisfactory or unsatisfactory,—political forms and economic forms, battles and arts, science and fads, mathematics and morals"²⁹ Thus again enter the problem of values and the subjective personal element in judgments, involving the human factor in the discovery, analysis, and interpretation of social phenomena, as well as the very nature of the phenomena themselves.

The Human Factor in Social Research. From time to time in previous chapters we have noted two distinctive problems of social research as found in the mastery of the scientific method and of the human factor in research itself. Not only are social phenomena essentially distinctive because of their human quality, but their discovery, analysis, and interpretation are dependent upon the human factor in an entirely different way from what they are in the physical sciences. Search for physical phenomena and interpretations of their meanings are not dependent upon other physical phenomena. The distinguished physicist in his laboratory is not tempted to change his results or to combat the facts of his laboratory because he desires them to be otherwise. And yet this is substantially what happens in the case of the human science specialist looking for human data. The methodology of the social scientist must therefore take into account not only the various differences between the physical and social sciences already noted, but must comprehend a technique which will include the mastery of the human factors in social research as well. Progress in general methodology appears to be more rapid and substantial than advance dealing with methods of overcoming the human factors and limitations. These factors appear in the prejudice of the investigator, on the one hand, and of those who give information and those who receive and interpret the results of social research, on the other. On the part of the investigator his results are conditioned by his prejudices or limitations in finding out the truth, in analyzing it, in interpreting it, and in presenting the final results. The investigator may find what he is looking for only, or partially, he may classify his results according to preconceived

²⁹ *The Decline of the West*, p. 101.

arrangement, he may interpret them according to his wishes, and may present his findings, even if unknowingly, as rationalized products On the other hand, the presentation of results is hedged about by similar limitations The public sees and interprets what it wants to see or what its traditions and prejudices dictate Individuals and universities as well as other institutions are frequently afraid to set forth the truth in many vital social matters On the other hand professors are dogmatic and impatient, becoming unscientific in their methods of combating the unscientific It is a mixed situation in which a growing complexity of material civilization at the same time augments the human and cultural factors James Harvey Robinson thinks that "the social sciences are in somewhat the same situation in which the natural sciences found themselves three hundred years ago in the days of Francis Bacon, Galileo, and Descartes They have to emancipate themselves from academic tradition and popular prejudices which suspect and resent any fair statement of the actual terms of human life"⁸⁰

Perhaps no better illustration of the human factor reflecting its potency and limitations in social issues could be found than the facility with which eminent scientists and scholars could join current hymns of hate during the world war Illustrations, however, are as numerous as examples of social research *Stuart A. Rice* has analyzed the various types of human bias in an unusually comprehensive way. He finds three major kinds under each of which are various manifestations and forms First there is the individual bias "associated with the training, temperament, social status, and social affiliations of the investigator" Among the various aspects of this individual bias are those associated with impressions and experiences of early childhood, with the transition of the individual from one environment to another, with intimate personal experiences, such as sex and religion, with the age period of the investigator, and with various other influences in the investigator's life, such as public criticism of his work, or acceptance of his theories. The second major type of bias he lists as "bias due to unconscious or conscious pressure of particular social interests, economic, religious, political, class" And among the most important of these are political bias, with various aspects of opposition or approval of an existing order, the same in economic bias, with scores of manifestations, religious bias with perhaps equally as

⁸⁰ *Mind in the Making, passim*

many phases, together with various forms of ethical bias, and professional bias in abundance. The third major type of bias is that "due to prevailing ethos of the community or the age," such as influenced by institutional character, emotional crises, contemporary civilization, and culture epochs. Illustration and analysis of Professor Rice's classifications will serve to state the case in ample proportions. Our task is to undertake the working out of the problem, one avenue of which will be the training of personnel, a topic which we take up in the next chapter. Other aspects have to do with the balancing of special method with common sense adaptation and development of new approaches.

Requisite Method for Scientific-Human Research. It is clear that we face a double paradox in the present trends of social research as well as in its present and future needs. It is a paradox perhaps as inevitable as it may be wholesome, if it leads to the later synthesis and integration of social research methods and scope. The paradox is one in which newer emphasis and premium are being placed upon methodology in the social sciences at the same time that there is impatience with mere narrow and static methodology composed of extraneous terminology and objectivity. If the chief emphasis is to be placed upon scientific method, then all social data and phenomena must at least somehow be reduced to the social or human denominator so that the methodology will in reality be scientific. If on the other hand, the humanistic emphasis is to be in the foreground there must be such standards of objectivity and quantitative measurement as will eliminate the "wishful thinking," deductive rationalizations, and subjective generalizations so easy and so common to the pseudo-scientific mode in the social sciences. There is much in each of the approaches and methods available for synthetic social science, there is in the broadening synthesis of social research ample opportunity for concrete and specific inquiry through special techniques. And in the composite challenge of the social sciences *successfully to do scientific research* in whatever way will best yield results, there is time and opportunity for inventiveness and initiative in the discovery and development of new methods yet to be determined. There is a growing tendency in this period of expansion to allow a wide range of freedom and experimentation in all branches of social research, with emphasis upon broad preparation, concrete experimentation, ample support, and especially upon the develop-

ment of personnel in both numbers and quality to justify expectations of results. Thus Allyn Young urges "emphasis upon the quality and promise of the investigator and let us be careful not to hamper him by prescribing too narrowly just what he shall do and how he shall do it." And again, in contradistinction to this general search for method and results at the same time he protests "against the fruitless quarrels of the methodological sects, against their intolerance, and against their pretensions of exclusive possession of the only right points of view and the only effective methods of research. We ought to welcome sound work in the field of economics . . . whatever its orientation and whatever method or technique it employs."³¹ Other men like Charles H. Cooley have pointed out major contributions in the past in the several social sciences and have called attention to the fact that results and not method were the outstanding features both of the original objectives and the actual procedure. Undoubtedly one of the larger contributions which the sociological approach is making, is that of emphasis upon scientific method, yet Sydnor H. Walker notes, from considerable summarizing of opinions, that "Sociology is charged with spending its energies in seeking status by the development of paraphernalia of a science rather than by shedding light on social problems."³² From the viewpoint of this volume this would appear as part of the substance of prevailing limitations of other approaches as well.

Wesley C. Mitchell has best stated the problem of method as it appears in this paradox of demand for method, and yet more method, alongside protestation of too much methodology as an end in itself. Interpreting in a general way the term method as a "way of doing something" and scientific methods as "ways by which specific individuals or specific groups of specific individuals endeavor to throw light upon specific problems of discovery," he emphasizes a number of corollaries to the concept. The first is that discussions of method at large are vain unless due distinctions be made between method and technique. The second corollary is that even though a scientific problem be defined definitely there is no one best method of working on that problem. A third is that the method of attack must be adapted to the materials available and pertinent to the problem. The

³¹ "Economics as a Field of Research," *The Quarterly Journal of Economics*, XLII,

³² *Social Work and the Training of Social Workers*, p. 181.

fourth corollary is that changes in method and materials keep reacting upon the formulation of the problem. Still another point was that affirmation, nevertheless, concerning a method is more likely to be valuable than a negation, unless the affirmation is at the expense of another method in the same field. Finally, Professor Mitchell thinks that "we seldom if ever are justified in talking about 'the' scientific method. It is wiser for us to talk about scientific methods." And this concept with its six corollaries, again, just about states the case.³³

Present Trends. These varied statements of the problem of the scientific-human method of social research, with particular emphasis perhaps upon the difficulties and limitations, is in no sense intended to record only negative phases of the problem and its present status. This entire volume is an exercise in the examination of progress from earlier and more limited stages to later and more effective and scientific stages of social study and social research. Throughout the book our concept of scientific method has been a broad one, interpreted perhaps as a synthesis which includes the generic scientific attitude of mind, in the specific individual and in the group, plus habituation and facility in the intellectual process and orientation, plus all scientific "methods" and "tools" available, plus resources in men and money, and plus adequate training of personnel. This, it is apparent, excludes any concept which insists upon any one method as all exclusive, or which refuses to give attention to any and all methods available for specific purposes and fields. In the review of the situation there are important trends which seem to move rapidly toward the broader and more effective scientific-human social research. In the general approaches, for instance, there has been definite and very marked progress from the philosophical to the scientific, from metaphysical deduction to scientific induction and deduction. In the general methodology there has been progress from the older analogical and physical methods to broader scientific methodology, and specifically through the newer avenues as the case, survey, experimental, historical, and statistical methods, all of which have become more and more effective tools for the scientific-human method and approach. The very greatly increased emphasis upon personality, human nature, human behavior, and human cultures has turned all disciplines, approaches, and methods alike

³³ From unpublished lectures

into the fuller recognition and treatment of real social phenomena. All of these objectives and modes of procedure have contributed to a new alignment and synthesis on the part of the social sciences. Out of this synthesis there appear three distinctive measures of progress toward the scientific-human concept. Two of these have already been emphasized. One was in the discussion of the contrast between present-day emphasis upon the physical sciences as contributory to the social sciences as opposed to the earlier analogical interrelation. The other was in the discussion of the contrast between current progressive emphasis upon scientific method as concrete, varied, and all inclusive, as opposed to the older analogical claim for scientific validity. The third point is the newer emphasis and keynote in modern social theory, in which real workable social theory is set up in contrast to the old theorizings about society in its organic aspects. Perhaps this modern demand for real theory, in the sense of synthesis—syn-theory—in all the social sciences is the keynote to the next steps. For here are demands for scientific principles and factual bases upon which theory of society and its problems may be so worked out as to serve as working blue prints rather than mere idealistic and pictorial elevations of utopian society. This new theory, equally applicable to all the social sciences, must be based upon data gained from actual measurement, and upon synthesis which investigates and builds upon the whole of society. In this demand for *theory*, strangely enough, is found the most practical of all modern aspects of social science, practical in that it knows society well enough in all its phases to pass judgment upon it and to orient itself to developing human culture and human problems. That is, the emphasis and trend are upon the "problem" not in any moral or ethical sense, but in the scientific or research interpretation of the problem-unit of work and control. And when the chief emphasis is upon the social problem and its component parts, the method and procedure inevitably conform more to the needs of actual society than to those of any discipline or theoretically imagined concept of social relationships as an organismic entity. Such a scientific-human method and approach will therefore be adequate to envisage and study society as a whole but at the same time to attack any and all of its concrete manifestations and problems as well. It will be adequate to study society in its normal development but it must also be adequate to

detect and analyze its abnormal and pathological aspects, human products of the increasing complexity of society. Herein lie specialism, synthesis, telic character, scientific validity of the new social research, dependent yet, however, upon the development of adequate personnel, the common sense application of all methods, and the adequate support of society and its agencies.

Applied to Special Social Problems. The test of any method and approach is, of course, whether it works or not. The immediate means of testing the successful working of scientific method in social research will be found in concrete problems and examples in the whole field. Samplings from the field, however, are excellently illustrated in the special problems utilized for illustration in this volume. Take the first, for instance, that of population which we have shown to involve many types of approach and method. What are the human implications and human factors involved? How does it differ from a problem in the physical sciences? Is the search for data on birth control, for instance, easily directed into purely scientific and objective channels in the midst of traditions, religious sanctions, inherited beliefs, and many other human factors? Are there pure economic factors, or legal, or moral or human? In eugenic experimentation, is it possible to make the same sort of studies and experimentation in human stocks and behavior as those made by Yerkes and Kohler with anthropoid apes? What are the legal obstacles, the limitations of public opinion, of family relationships, of financial costs, and many others? And of interracial admixture, of immigration, of marriage and divorce, the size and standard of families and classes, and many other phases of the interrelated problem of population and family—just what are the problems of technique and method necessary to make really scientific studies? Or take the problem of war what were the human factors involved in the hymn of hate and in the vast and complex interrelations of many factors in the genesis and end of the great war? Why did the social scientists, although aiding the physical scientists in winning the war, find little social phenomena and develop little methodology within their own fields? Does anyone even suggest that most of the ordinary problems of international relations and of conflicts are being studied in any merely naturally scientific way? And yet the test of social science may well be found in this particular social problem. Fi-

nally, the problems of regional research, in any region, but particularly in the southern region selected for one of our illustrations, offer an unexcelled example of the challenge to the scientific-human method. For what progress will the "timeless" and "spaceless" methodology of the physicist make in the study of southern mass politics or leadership or mob action or traditional culture or humanistic loyalties? Who will agree that the southern student, trained and nurtured in the southern culture only, can make a scientific study of the Negro? Or the same of the student regionally and culturally acclimated in the New England states? And so for the more than one hundred and fifty type problems listed in Chapter V they demonstrate the type of social problem in which the distinctively human challenge is dominant. And especially they challenge the social scientists to train personnel in adequate numbers and with requisite background and technical equipment to attack the regional problem with good effect—which in fact is not the case now.

CHAPTER XX

TYPES OF PROCEDURE: PERSONNEL AND COMMON-SENSE TECHNIQUE

The Place of Personnel in Social Research. A major problem in the development of the newer program of social research, alongside the understanding and mastery of the general fundamentals of the scientific-human method, is that of the discovery, development, and training of personnel competent to pioneer in several methods and to make due common-sense application of technical methods and materials of science to research in human affairs. Indeed, if we take into consideration the history and development of the social sciences, the present leadership and personnel in universities, research agencies and groups, as well as the increasing demand for younger and better trained specialists and for new leadership, this problem of personnel is easily the most important one in the whole range of attack. The fortunes of the social sciences have in the past been so interrelated with the lives and work of social theorists themselves that it has been customary to write the history of social thought simply in terms of the work and lives of the masters, chronologically inscribed. The defects of such recording of developing social theory are manifest from the examination of newer volumes such as Floyd N House's *The Range of Social Theory* and Pitirim Sorokin's *Contemporary Sociological Theories* in which trends and related concepts are seen to be more than merely the enumeration of personal contributions. Nevertheless, the development of the several social sciences and especially of social research is almost solely the story of individual leadership, sometimes playing a lone hand, sometimes adequately supported by interested individuals or institutions. Outstanding contributions of the different epochs, and radical departures from old viewpoints and theories coincide for the most part with the rise of distinguished scholars and their published contributions. Even major liabilities of the social sciences have often been practically coterminous with wrong concepts and methods of distin-

guished leaders In current times especially, progress of varying sorts, in different social sciences, both in theory and in the development of strong departments in universities, has been identified with now a brilliant personality here in one field, and now another there in another field While similar momentum to lesser extent must continually center around strong personalities, present tendencies toward group research, closer interrelation among the different subjects, and a certain amount of synthesis of results, will tend to make consistent progress less dependent upon a few leaders, and will prevent loss of time and prestige in the future such as has often been incurred in the long-time dominance of a few outstanding leaders This is not to underestimate the continued factor of strong personality, characteristic qualities of which may well be emulated by those preparing for future leadership It is rather to evaluate the personnel factor in three chief ways, of which the exceptional and dominant leader is only one A second aspect is found in the growing recognition that since social research is now admittedly the most complex and difficult of all research, personnel in this field must not only possess the prerequisites of the scientific man but must add these other qualities already suggested by the range and complexity of social phenomena, and to be discussed presently in our appraisal of personnel standards for social science research specialists and workers of the future Distinguished leadership is, of course, still essential, nevertheless diffused leadership and technicians, better qualified with the essential equipment for social research, will play a greater rôle and will demand more rigid selection and more adequate training

A third important factor in the problem of personnel is found in the large numbers of shock troops of the growing research army from which, it is true, new leaders must be developed, but from which also will come the body of technicians and workers from both individual and group research Because of the increase in numbers and because, therefore, of the greater variety of personalities, the very nature of much methodology must vary according to personality Consequently, the nature of composite or synthetic methods in turn will be dependent upon research personnel of the future, Thus *Allyn A Young*, although discounting the too-enthusiastic claims made for social research, still believes that "the increase in the number of able men who are bringing the spirit of scientific inquiry into the study of economic problems (as an example) gives us ground for hoping

that we shall learn how to deal with these problems more wisely," and he thinks that at least one problem of the future is that of fitting research problems to the interests and equipment of the individual investigator and the resources available to him.¹ We have called attention to *Wesley C. Mitchell's* insistence that method must be dependent upon and must be adapted to materials available and pertinent to the problem in hand, wherein he is sure that pertinence is a matter of insight, which in turn is a matter of individual differences. Thus he sees future methods conditioned largely by personnel, not only as the means of actually working out research problems but also as the particular conditioning environment of method itself "Specifically, and this is perfectly obvious, men differ in their mastery of different techniques, in the gift they have for mathematical formulation, in their capacity to use quantitative methods, in their skill in drawing up and getting answers to questionnaires, in their adaptability for obtaining information through what is coming to be called the method of the interview, in their capacity for interpreting historical records, in their ingenuity in devising experiments. They differ in their mastery of everything that is coming to be given a name as one of the weapons in the arsenal of the social scientist." Again, "individuals differ in their mastery of the materials which are relevant to the discussion of certain problems no less strikingly than they differ in the mastery of the possibly applicable techniques. Here we have another respect in which a group of cooperating workers may possess a material advantage over any one of their constituent members working single-handed. The group may bring to the consideration of that problem an intimate acquaintance with a range of facts far wider than any individual possesses."² A similar interpretation of the importance of both quality and numbers in trained personnel in the whole problem of developing and facilitating the social science program has been given by *Leon C. Marshall*. Estimating the chief task to be one of inventiveness in the formulation of generalizations, discovery of method, analysis of problems, establishments of institutional modes or any other constructive work, he sees three requirements. A large number of competent persons interested in the task, a good background of data on social matters for these persons, and promising methods of study as an essential part of their equipment. "The benefit likely to follow," he says, "from having a large number of competent persons interested in the task is partly the greater probability of finding inventors among a

¹ "Economics as a Field of Research," *The Quarterly Journal of Economics*, XLII, II, 25

² Unpublished lectures

large number of persons than among a small number. Then, too, there is a greater probability of fertile combinations and recombinations of ideas when there are many ideas of many varying persons. One word of caution seems appropriate. We are not sure precisely in what ability consists in this matter of inventiveness in social affairs. It is not safe to think in terms of setting up rigid standards of selection designed to include brilliant persons and to exclude those who are not brilliant, there are too many cases where the stone which the builders refused has become the headstone of the corner."³ As representative of the range of interests and training of and for this larger personnel, and as indicative of future qualifications of the social research specialists, Professor Marshall's list of persons, skilled in other fields than economics, required to carry on economic social science effectively is illuminating. These include A person trained in both economics and law who is interested in legal-economic relationships, a person trained in both economics and the earth sciences who is interested in the economic aspects of natural resources, a person trained in both economics and the physical sciences who is interested in the economics of technology, a person trained in both economics and biology who is interested in so-called "human biology," a person trained in both economics and psychology who is interested in the psychological aspects of economics, an anthropologist or some other person whose mind ranges over many of the contacts of economics with other sciences, a person interested in discovering the basic processes in administration.⁴

The Physical Scientist and the Social Scientist. It has long been apparent that the qualifications and training of the specialist in social research must be far beyond the common assumptions of many aspirants to whom social research appears as a new fad, a new avenue of satisfying expression, or merely a profession which looks most interesting indeed. An understanding of the meaning and scope of social research must be convincing that the social scientist must have the essential qualities and equipment of the physical scientist to which must be added all of these other prerequisites implied in the factors of orientation, human adaptation, and telic objectives. To the qualities and equipment of the old masters of social science, the new leader must needs add also certain capacity for group research and synthetic analysis and inter-

³ "How May We Foster or Facilitate the Development of the Social Sciences," *Journal of Political Economy*, XXXV, 292-293

⁴ *Ibid.*, p. 297

pretation somewhat foreign to many of the older distinguished specialists. Of these qualities much will be said subsequently, perhaps it should be added here that they are all interpreted in terms of common sense attainments and technique such as are suggested in the latter part of this chapter, and that the setting of high standards presupposes no universal average of supermen. As a matter of fact, under these terms, there can be no standards too high, and the aspirant for research distinction will do well to look into all of the essential qualities of successful scholars in the past Biographers of men of science and of leaders in social science will make an excellent introductory exercise. Hereward Carrington defined the man of science as one who adds something to the sum total of human knowledge by reason of original research in a specific field, to which he added, for the "great scientist" the requirement of welding together existent knowledge from which some cosmic law or universal principle might be deduced. The great scientist, he thinks, should give the world some new outlook upon life and the universe and to some extent alter the evolution of the human race.⁵ These are the results, the products of the great man of science, contemplation of his work and spirit may well be a part of the incentives to direct the new cultural impulse of inquiring minds, to inculcate the scientific habit of thought and search, and to evaluate "the long assiduous unbroken labor, such as thousands of scientists are giving in hundreds of laboratories without prospects of distinction, without hope of immediate reward, simply from our love of the work itself."⁶

Exhaustive study of many physical scientists indicates the following positive qualities perhaps in most abundance. Patience, perseverance, singleness of purpose, concentration, energy, love of work, desire for eminence, faith in the outcome of their efforts, inquisitiveness, devotion to truth, courage, enthusiasm, the wise use of time. These are, of course, but samplings of the qualities required of the specialist in social research. The physical scientists also reveal negative qualities, if perhaps more permissible for the naturalists, certainly inexcusable in the social scientists. Impatience with opposition, lack of tact, lack of moral courage, intolerance, fear of ridicule, over-weaning pride, over-impulsiveness, lack of common sense, lack of business acumen, obstinacy, peevishness, uncouthness, prejudices and

⁵ Great Men of Science, p. 9.

⁶ Gamaliel Bradford, Darwin, p. 251.

bias, jealousy and other character-manifestations less prejudicial to research in a social vacuum, than would be the case in the social laboratory of human relations⁷ In general our study of the life and work of many specialists in the social sciences, such as those listed in Chapter IV, revealed abundance of the positive qualities with less tendency toward the negative characterizations In a special study of American masters of social science we found the following predominant characteristics Wide study under European masters and of European works, wide range of general training in backgrounds and interests, vigor, thoroughness, scholarship, strong personalities, consistent pioneering in new fields of social study socially minded and participating in social policies, the ability and will to orientation to social change, and the power of inspiration and direction for others in the same fields In particular they have inspired and directed new generations of students, teachers, editors, publishers, authors, in the social sciences, in the class room and out Theirs were "lasting" qualities, which, however, had their logical and inevitable basis in "long, careful preparation, in patience and persistence, and in cosmopolitan contracts over long periods of years None of the "Masters" has sought the easy road to scholarship and achievement, none of the masters has sought superlative achievement without the first arduous and varied intervening tasks American college, American university, European university—years of internship as fellow, instructor, professor, educator, teacher, committee worker, administrator, publicist, citizen—these were the stages through which the final products have been achieved The flower of their achievement came in maturity of life, and the history of their scholarship and work reads not always like romance and often also like the long story of doubtful ending⁸

⁷ There is an abundance of new and popular, although authentic, biographies of men of science in recent years The inquiring student may also desire to compare the characteristics of men of science with other leaders in various phases of effort, and if so he will find a rich literature there also To begin with men of *science*, a baker's dozen of authors read like romance Bachman, Darrow, De Krief, Bradford, Gibson, Hart, Holden, Murray, Osborne, Van Wagenen, and others Of the *musicians*, ten volumes are worthy of special study, including those by Bridge, Brower, Crawford, Dole Lavel, Rosenveld, and Sharp Concerning the masters of *art* and of *painting*, there are a dozen by authors including Carrington, Caffin, Chubb, Cortissoz, McSpadden, Pach, and Pannell Graves' great *educators*, Hagan's great American *lawyers*, Kingston's famous *judges*, Newton's living masters of the *pulpit*, are types of biographies of other personalities

⁸ *American Masters of Social Science*, ch 1 Also Paul T Homan's *Contemporary Economic Theory* which is a study of American Economic Masters, Gamaliel Bradford's *Darwin*, Harris Starr's *William Graham Sumner*, Lorine Pruitt's *G Stanley Hall*

Essential Personal Qualities and Equipment. In making appraisal of the essential personal qualities and equipment of the research specialist and worker in the social sciences we must review again the twofold requirements. He must be a scientist and he must be a *social* scientist. We recall a distinguished social scientist some years ago who insisted that in order for his work to be scientific it must be done in a social vacuum so that his results would in no way be impaired by contact with the social environment. But we noted years after that when his most distinguished work was produced it was from and in the midst of a social laboratory full of men and women of the common human kind, with all their processes and products of human behavior and experience, and that his work consisted in both the discovery of truth and the evolving of new methods of extending his research into the larger social field. The protestation of the older theorists or the older word terminologists against being bothered with social phenomena has been happily exchanged for the social scientist's recognition of the common problem of human behavior as based upon social phenomena which while requiring quantitative measurement, also demands analysis, interpretation, and direction in a relational scheme of things. This is to say that the social scientist must meet the test of the scientific spirit and method, of the application of this method so as to make actual new contributions to social knowledge, but also he must meet the test of nurturing and promoting social research through adaptation and inventiveness in the social field, which means again that he must see that scientific research lives and thrives in order that he may be more scientific because of the increased opportunity for extending his research and experimentation with human phenomena. We should therefore be inclined to set down first certain general requirements in addition to the standard tests of the scientist. And these general requirements are based upon the recognition of a wide range of differences in individuals and in types of social research. One may, for instance, excel in experimentation and lack the qualities for theoretical generalization. One may have initiative, insight, creative urge, and administrative aptitude more effective in the direction of research than in the actual doing of the work himself. On the other hand, he may have scholarship, skill, technical training, and the peculiar ability to excel in complete original research.

Or it is possible that he may have neither of these two combinations but excel in the skill and aptitude of following the technique of group research or technical inquiry through standardized methods. Specialists in each of these aspects of social research may be equally accomplished and effective. In general, however, certain broad qualifications seem essential to successful achievements. The first, of course, is the possession of reasonable native ability, the qualities of the scientific mind, and common sense, of which more will be said subsequently. Essential also are a wide range of knowledge and training covering a broad field, broad interests, the ability to work hard and rapidly, the love of hard work, the ability to work at, comprehend, and analyze more than one thing at a time, without losing the facility for concentrated attention, the selective faculty, with keen insight into the unexpected, the ability to pursue one subject to its logical end, facility in analysis, classification, and interpretation, facility in receiving censure as well as favor.

Nevertheless there is no substitute for the specific characteristics of the scientist. Many statements of these characteristics are available. *Milton Fairchild* gives twelve. Sincere and open-minded—not diverted by personal interests, alert and alive to truth, vital—not complacent, poised—not excitable, hysterical or melancholy, discerning and thorough—not superficial, accurate—not indefinite, inventive and constructive—not lacking initiative, independent—not suggestible, thoughtful and persistent—not merely impulsive, industrious and energetic—not lazy and dilatory, executive—not haphazard, purposeful—not led merely by likes and dislikes, self-confident—not timid. But the scientist must also have training and a broad cultural background. To do research, he must be a specialist, but this does not presuppose training in one narrowly-defined specialism. The scientist needs training in kindred sciences in order that he may see his problem in its relation to the entire field.⁹ And this is especially true of the social research specialist as demonstrated throughout this book. "The late Professor Henry A. Sill, of Cornell University, in his lectures on the historiography of the Ancient World, regarded as a necessary part of the auxiliary preparation of the historian of that period a knowledge of the following 'neighboring sciences' Philology, Epigraphy, Paleography, Archaeology—prehistoric and classical—Numismatics, Sphagistics, Heraldry, Genealogy, Chronology, Geog-

⁹ Conference Memorandum

raphy and Anthropogeography, Ethnology, Anthropology, Physiology, Psychology, Social Psychology, Sociology, Politics, Economics, Jurisprudence, Logic, Ethics, Philosophy, and the Philosophy of History. Here is supplied a basis for real synthesis."¹⁰ And what holds for the historiographer is true also for all social scientists with reference to their disciplines and related fields. There is, of course, specialization in a particular field, but this should be a later development. There is danger in the present tendency of too early specialization before the student has secured a good, working background and foundation.

Special Attributes. From a review of the characteristics of actual scientists and from the samplings of theoretical qualifications already listed, one comes to a relatively accurate estimate of just what it takes to qualify for scientific research. From an understanding of what the field of *social* science is and of the larger problem of the scientific-human method, one begins to approximate the essential qualities of the specialist in *social* research. Perhaps the Pearsonian judgment that the chief characteristic of the scientific mind is the habit of forming a judgment from facts unbiased by personal feeling is most pertinent for repeating for social research. Others to be reemphasized would include the pioneering spirit, fearlessness, intellectual integrity and honesty, keen sensitiveness to facts and situations, ingenuity, inventiveness, imagination, initiative, the cooperative spirit, enthusiasm and ceaseless optimism founded on tough-minded reaction to stubborn facts. And if with these and other characteristics one has the capacity, as Walton Hale Hamilton puts it, to go on an intellectual debauch with his cumulative data, he may hope for fair results. Samplings from other students and other viewpoints may now complete the general review of the positive qualities of the research specialists, keeping in mind again, the common-sense interpretation of all these interrelating attributes, as well as the prime quality of common sense itself.

Among other qualifications, *Franklin H. Giddings* mentions, as specific requisites for the social scientist, a knowledge of the essentials of other disciplines, poise and balance, a comprehensive view, a sense of relative values and apprehension of proportions and of probabilities, in order to keep the extensive and

¹⁰ W. W. Pierson, Jr., "Scientific and Interpretative History," *The North Carolina Historical Review*, III, 174-176.

complicated societal field in view¹¹ *G A Pearson*, would ask for the scientist training, intellectual power, physical fitness; application, integrity, the ability to stand up under the strain of criticism, disappointment and failure, he must not necessarily be a genius of an abnormal type¹² *Glenn Frank* emphasizes the need for creative ability in the scientist and feels that although he must never be dogmatic, he should be willing sometimes to draw tentative conclusions even though he hold these in the light of further revision¹³ *Charles W Eliot* gives a somewhat different category including the faculty and habit of determining and grasping facts and then verifying and digesting them, capability of conceiving hypotheses, keeping the road that leads to truth, patience, reserve, enthusiasm, capacity for eager speculation, unusual perspicacity or clear-sightedness in regard to his theories, capable of seeing clearly the bearings of new discoveries in kindred sciences on the particular inquiry he has in hand, capable of seizing on the essential parts of the inquiry, watchful over minor details and for apparently insignificant differences and similitudes, keen to discern relationships among facts, liking for an elucidation of mysteries and a liking for new adventurous problems, secure pleasure and satisfaction where most men would find vexation and futile effort, find fascinating what most men would find repellent, seek the stimulating value of controversy, follow leaders with hearty enthusiasm and loyalty and enjoy the stimulating comradeship with contemporaries in the same fields¹⁴ *J Q Dealey* and *Lester F. Ward* call attention to the necessity for a fundamental knowledge of related fields,¹⁵ while *Emory S Bogardus* lists versatility, open-mindedness, research skill, initiative¹⁶ *R D Carmichael* offers a suggestive category which he discusses in some detail The research specialist should keep unimpaired his deep individuality, have courage and persistence, show marked individuality, his work being an expression of himself and a means of developing him into that which he should become, he does not compare his work with others as to value, must know current tendencies but do his own thinking, puts his personality into his work, has plasticity of mind as well as openness which does not preclude development even late in life, he is dynamic, not static, is usually a specialist although in a few cases genius has seemed almost universal¹⁷ The qualifications listed by *W W. Pierson, Jr.*

¹¹ *The Scientific Study of Human Society*, pp 92, 99, 208

¹² "Some Conditions for Effective Research," *Science*, LX, 71

¹³ "The Outlook for Western Civilization," *Century*, CX, 629

¹⁴ "Character of the Scientific Investigator," *Educational Review*, XXXII, 158-161.

¹⁵ *Textbook of Sociology*, p 17

¹⁶ *The New Social Research*, pp 53, 54, 57

¹⁷ "Individuality in Research," *The Scientific Monthly*, IX, 516-522.

as requisites for the historian are equally applicable to other social scientists. He should be temperamentally fit, keen, possess intellectual ardor for research, investigation and discovery, and a knack for successful exploration, persevere patiently to the end in spite of discouragement, discomforts, and sometimes the positive risk of incurring the positive measures of intolerance, worship truth for its own sake, have personal detachment, possess the difficult but necessary faculty of objectivity, rejecting the usual mode of interpretation, be a sincere and severe critic of himself, have or develop a mind in its outlook judicial and free from dogmatism and with the ability to see both sides of a question with really fair and impartial judiciality but not dull neutrality, although he must be neutral, have intellectual flexibility and be independent intellectually and financially, be indifferent, courageous, a specialist but have a knowledge of neighboring sciences.¹⁸

Negative Aspects. Since the prevailing criticisms of the social sciences and of social research have emphasized negative aspects, limitations and failures, it may be well to give brief consideration to qualities and procedure commonly interpreted as contributing to unscientific results. In examining our two major problems involved in the mastery of scientific method and of the human factor in social research we have estimated more progress in the development of successful method than in the mastery of human limitations. The chief reason for this has seemed to be the imponderable weight of human bias and prejudice, many of the aspects of which we have noted in previous chapters. The first essential, therefore, for the research specialist is to so master himself and his objective technique as to reduce all forms of bias to the lowest possible terms, including his bias in searching for materials, in interpreting them, and in presenting his final results. Like our other conclusions, this is no easy matter and still awaits inventiveness and initiative in the working out of categories and approaches of the right sort. It is easy for the investigator to find what he wants to find, or what he is looking for, or what he is accustomed to see, or what others see. If the fundamental principle of all scientific observation is accuracy, it must be clear that the investigator may not excel in this respect until he has mastered the problem of his prejudice and bias so far as is humanly possible. Sir Oliver

¹⁸ "Scientific and Interpretative History," *The North Carolina Historical Review*, III, 172-176.

Lodge, noting the utter fallibility of the human investigator, thinks also that it is "easy to grasp at truth by the wrong end—by intensity of concentration in one direction to narrow down and close our outlook and close our eyes to the mystery and magnificence beyond "¹⁹ Neither should the social scientist become discouraged because he does not always see the objective measurements of his research or the complete synthesis of his work. A common fault, resulting partly from bias and training, and partly from this over-expectation, is found in the tendency toward general rationalizations and the major emphasis upon wishful or ethical objectives. This fault is common to both the youthful investigator and to the older specialist whose allegiance binds him to specific methods and procedure. After all, however, the principal accusation made against the social scientist and the chief danger perhaps to be avoided is his tendency to be "unscientific" in his work. Milton Fairchild lists twenty-five ways of being unscientific which he terms "intellectual immoralities." The candidate for research specialist in social science may well consider these, alongside the negative and positive aspects of other requisites already listed.

These twenty-five limitations include Carelessness in observations, "sloppy work," inaccuracy in determining units to be counted in statistical research, slovenliness in logic, fantastic explanations, generalizing beyond one's data, confusing opinions with knowledge, confidence in the results of research in disregard of weakness in proof and verification, contentment with "discussion," poor judgment in research plan and procedure, wavering interest, flitting attention, attracted by peculiar superficialities, egoism allowed to crowd one to the invention of "new" theories for personal distinction, inventing interesting theories for the sake of selling them in books, articles, lectures, and conversation, pride allowed to result in persistent belief in a theory for which one has been given credit, formulating an hypothesis on weak bases of facts, and then becoming blind to facts in opposition, emotionalism during research, "I believe" instead of "I have proved," adjusting theories to popular likes and dislikes, opposition to proof of another's theories because of jealousy, opposition to a theory merely because of ignorance and stupidity, "I can not see how," rushing into print with a report of research work that justifies no conclusions; degenerating into a propagandist of an unproved hypothesis, instead of being true.

¹⁹ *Science and Human Progress*, p. 16

to the research purpose of discovering the truth, cowardice in supporting a verified generalization because it is unpopular and conflicts with selfish interests, impatience, unwillingness to proceed step by step through a research, indulgence in dense verbiage for the sake of appearing superlearned, ignorance of the mechanism of instruments of precision, which results in their use when out of order, popularizing tentative generalizations for the sake of personal publicity, resort to the authorities, or to sarcasm and ridicule, against data, arguments and verifications.²⁰

General Common Sense. After all, however, there is no substitute for plain common sense and common-sense technique. It must be clear that this quality is scarcely definable except in general terms, or in terms of its absence, or in terms of illustration. In Chapter I we discussed science as common sense, as organized common sense, as Huxley had it, and social science as being, as Giddings put it, merely the common-sense applications of science to human affairs. No better illustration of the generic meaning and application of common sense to social research has appeared than Wesley C. Mitchell's interpretation of method as discussed in the preceding chapter on The Scientific-Human Method and Approach. Common sense does imply the adaptation of methods and techniques and approaches and programs to the problem in hand and to the available materials and personnel pertinent to the problem. And there is no substitute for this fact and facility of adaptation and adjustment of method to problem, of problem to human needs. This does not mean the minimizing of the exactness of methods or the definiteness of attack. It does not mean lessening, but rather increasing the number and types of specialized methods. But it does mean an understanding of an orientation of whatever methods and problems may be concerned. Perhaps this is partly a matter of native aptitude, even as all abilities are, but it is certainly partly a matter of acquired judgment and skill. This same common sense must be applied, perhaps with considerable humor, to the understanding and contemplation of the vast and all-inclusive prerequisites just listed for the successful research specialist and worker. Discrimination, the selective ability, full recognition to exceptions, due appraisal for sub-specialization, and full consciousness that all qualities do not inhere in the ordi-

²⁰ Conference memorandum.

nary individual are all common-sense attributes assumed in setting forth general modes and standards. Judgment, tact, perspicacity, foresight, tolerance, skill in cooperative enterprise, all are general qualities with appreciable elements of common sense in their makeup.

There are many illustrations of the need, the use and lack of common sense everywhere evident in the common day's work in social research. The specialist who expects miracles of research or who insists with bitter rancor upon the exclusiveness of his own narrow method is scarcely exhibiting marked common sense. The specialist who has devoted his life time, his best energies, with great resources and specialization, to perfecting a method or theory, constantly changing and rejecting its premises and conclusions, is not particularly excelling in common sense when he expects a lay public or a directing group to understand and give full recognition with one hearing. His common sense ought to dictate the simple conclusion that such rejection has not final correlation with the promise or hopelessness of scientific procedure in human affairs. *Charles H. Cooley*, keeping in mind this sort of lack of common sense and the constantly changing hypotheses of science says "No wonder the plain people distrust 'science'" and cling in spite of it to cherished beliefs. It shows their good sense. What honest and thoughtful student expects that more than a small part of contemporary speculation that respectable men proclaim as truth will be believed a century hence? . . . you cannot expect the plain man to know all that. He judges by what he can see and by the credibility of the witnesses, of which he may have a poor opinion. He sees that many professed men of science are no less partisans, propagandists and followers of fads than other people, and draws his own conclusions" ²¹ One of the most difficult lessons for the research agent to learn is that of making clear distinction between scientific research and promotion of a cause or a subject of chief interest to him or to contemporary thought. Restricting efforts to non-partisan and impartial effort is no index of fear or timidity of "sacrificing principles," so much as it is an index of plain common sense and scientific method. It is not a question of the right or wrong of a cause or of good or bad conditions existing, but the question of the function of social research as opposed to that of social guidance or social work, or other form of applying the results of research to the needs of society. It is a part of common sense and judgment to distinguish between the telic nature of social research and its telic application, distinctions exactly as wide as those of science and art. It is a marked

²¹ *Life and the Student*, p. 150.

indication of lack of common sense for the brilliant investigator to yield to the fad of merely collecting data, mass on mass, file upon file of materials on every possible subject, in each of which are ample data "to write a book on it," but nevertheless worthless as mere collections. Nor are mere quantitative references and foot-noting evidence of scientific success. Likewise the exercise of common sense in the application of any principle, method, or approach is of fundamental importance, to avoid doing the unintelligent thing in the application of intelligence tests, to avoid irregular and abnormal procedure in the all-inclusive claims for psychiatry, to avoid unscientific application of partial processes of sociology, or anthropology, or psychology, or economics, or other special discipline. To be able to reduce social data to the social or human denominator by putting oneself in a position of genuine recording and interpreting *Julia Peterkin's* portraiture of the human qualities of the Gulla Negro is both scientific and artistic, because she observes and interprets without cultural prejudice and preconceived standards. Most investigators are fully competent to do this, but many fail because they have not utilized plain intellectual common sense in their procedure.²²

Common Sense in Everyday Procedure. The element of common sense enters largely not only into the general aptitude and procedure of the social research specialist, but into the detailed, daily, mechanical routine. In response to a catalogue of mistakes in tact, approach, and contacts, reported as common occurrences, one specialist insisted that it was a matter of having qualities of the gentleman—and let it go at that. Certainly many of the blunders made by the investigator would be avoided by the simple exercise of common sense and good manners.

Lack of common sense and not intellectual keenness was reflected in the youthful investigator who telephoned the distinguished citizen for a long array of facts about a community problem to be written down then and there to save the investigator's time. Lack of common sense was reflected in his failure to understand the violent response of the distinguished client. The dictatorial tone in letters of inquiry, the authoritative request in interviews, the assumption of uncalled for dignity and importance, the meddling into affairs other than the subject under study, the misuse of hospitality and information, extremes of discouragement and exaltation, the exhibition of temper, and many other technical defects are part and parcel of character,

²² *Black April and Scarlet Sister Mary*

training, and common sense. The investigator, who waits two hours for a stenographer lest he waste his valuable time type-writing a thirty-minute memorandum needs more than common sense—but nevertheless needs that in abundance. Indeed the free expenditure of his own time and energy in typing notes, memoranda, reports, and in doing much of the more important details of research are standard reflection of common sense discrimination as to what is not important and what is less needed. The common-sense way of doing a thing is to do it in the way which is most effective and is not always measured by a rule of thumb details. Nevertheless, the anthropologist whose ambition was to obtain an unusually comprehensive record of all the Negroes of a certain community showed lack of common sense, when, to show his own willingness to work and to dig into his problems, started on the plan of exhuming skeletons in the cemetery in order to demonstrate his scientific methods. These, however, are ample commonplace examples typical of the day's work in the social research laboratory, and can be extended into the whole field of utilizing and applying the mechanical means and resources as discussed in our next chapters. Indeed much of the procedure and detailed method of the following chapters is an exercise in common sense, as well as efficiency in successful technique.

The Development and Training of Personnel. There is finally the problem of the development and training of personnel in accordance with the needs implied in this treatment of the field, approaches and methods of social research. Partly, of course, investigators and research specialists "just grow", nevertheless the indications are that this method of supplying personnel has not been all that was needed. There is still no substitute for the orderly processes of sound education in the social sciences, giving the student a broad background of related fields and as thorough preparation in one or two specific subjects as possible. There is still no substitute for the natural development of abilities and aptitudes in the pre-research periods of preparation. Nevertheless, there appears to be a much greater need for special preparation and training for both the larger number of investigators and students and for the newer type of leadership as depicted in this volume. This special preparation is being worked out with increasing effectiveness through better groundwork in the social sciences, in the principles and methods of social research, through practice training in university or research agency, and through

extended field work and practice in analysis, interpretation, and presentation of results, professional capacity, research institutes, in seminar, learned journals, and other various outlets. In the colleges and universities there appears a paradox in that there must be distinction between teaching and research on the part of those who must be depended upon to train the newer generation, and at the same time it is important that research be not divorced from the dynamic contacts of class-room and practice laboratory. This problem can apparently be worked out satisfactorily through the increased time and facilities which may be extended to the teaching and demonstration staffs. There is no substitute for actual practice research under the right sort of leadership. In addition, therefore, to the present large number of research fellowships of increasing scope and opportunity, and in addition to encouragements and opportunities for special preparation, there are needed ample and standard opportunities for research "internships" through which the specialist may test and retest himself at the same time he continues his development and training. Another fundamental service which adequate institutional internships would offer would be to maintain a constant source from which the best possible personnel may be recruited for urgent tasks and to hold in reserve those who perhaps ought not to be forced into too early research efforts. In the meantime, throughout the whole field of physical science, social science, and the humanities increased facilities represent an encouraging trend—facilities in colleges and universities, in research institutes and practical agencies, in private and state laboratories, and especially through grants and foundations set up for just such specific contributions to the program of human research. Typical of these are the official and composite associations, such as those representing the social sciences, the American Historical Association, the American Economic Association, the American Sociological Society, and others, special groups such as the Institute for Economic Research, and various other agencies cited in Chapter V, and in still more coordinated organizations, such as the National Research Council, the Social Science Research Council, the American Council of Learned Societies. Alongside these are the important endowed agencies and foundations whose funds are devoted to the support of pioneering efforts and to the development and encouragement of groups and individual scholars.

and research specialists. Besides these major stimulating influences and structures for encouraging, developing, and training of the research specialist there are large numbers of opportunities through the medium of analysis, interpretation, and presentation of research results in technical journals, learned periodicals, published monographs, textbook series, professional and business markets, and various other ways, some of which will be discussed more in detail in the last chapter of this volume. In the meantime, it is just as well not to forget the importance of rigorous selection of individuals with native ability and aptitude for the larger tasks of social research. Without accepting Spengler's dictum of the born researcher, as typified in history, we may nevertheless fairly urge that these resources and opportunities for training in social research be utilized on behalf of those who give prospect of measuring up to the full stature. Spengler's statement was that "the nature researcher can be educated, but the man who knows history is born. He seizes and pierces men and facts with one blow, guided by a feeling which cannot be acquired by learning or affected by persuasion, but which only too rarely manifests itself in full intensity" ²³ At any rate the candidate for research training is invited cordially not only to develop his inborn aptitudes but to perfect his technique in general procedure, in the use of source materials, bibliographies, mechanical means and resources, and in all the effective ways of analyzing, classifying, interpreting, and presenting his results to a waiting world.

²³ *The Decline of the West*, p. 102.

CHAPTER XXI

TYPES OF PROCEDURE. EXPLORING THE SOURCES

Successful social research requires, in full measure, knowledge of principles, backgrounds, relationships, and general methodology described in the major part of this *Introduction*. It requires, in abundance, strong personnel, well trained and adapted to the common-sense technique of social research as suggested in the preceding chapter. But it requires also skill and facility in practical and detailed procedure in the exploration of sources, in the utilization of technical and mechanical aids, in the analysis, interpretation, and presentation of results, and in the development and promotion of the research program. These are all inseparably bound up in the whole problem of social research, whether it be the choosing of a field and problem, the selection and training of personnel, or the actual carrying on of research itself. The principles, interrelations, and applications are in general the same whether the research is the elementary effort of the undergraduate, the more advanced beginnings of the graduate student, the mature work of the research specialist, or the larger product of group research. Knowledge and common sense and personality are involved, but there is need for more than mere knowledge or personality or common sense. Training and practice and facility in the actual doing of the job must enter largely into the final measure of success. This chapter, therefore, and others to follow will continue the same larger theme but on the different level of approach as found in the more detailed types of procedure.

Illustrating a Type of Procedure in Text. Up to this point the formal method of presentation, in which material is carefully documented and footnoted, has been followed. But the nature of the subject matter in the chapters dealing with procedure and mechanical technique makes it possible and advisable to utilize and illustrate another simple technique which is gaining a certain ascendancy. This is a technique in which continuity of text and reference

is effected through the use of context references and a minimum of footnotes. A certain uniformity of procedure and overabundance of references make this method peculiarly available for illustration in these chapters. That is, in discussing the location and collection of source materials, or commenting upon habits of reading and methods of note taking, or suggesting procedure in the use and compilation of bibliographies, a well-worn trail and not a new path is being followed for the most part. This must not be construed to mean that there is one way and only one way to proceed with these details. It means simply that the technique set forth here has been found, after much experimental effort, a practical, working method of performing the mechanics of social research. No two research specialists are wholly in agreement on technique, no two handbooks on research will be found comparable in every detail, yet all are in accord on certain fundamental principles. Although there is grave danger of overstandardization, a reasonable amount of standardization is necessary. Science as logic is an underlying concept of scientific method, and this means that the scientific structure is raised brick by brick, each specialist beginning his task where his predecessor has stopped. Then, too, as demonstrated in Chapters III and IV on "The Physical Sciences and the Social Sciences" and "The Development and Interrelation of the Social Sciences," each discipline is not erecting its special structure only, nor are the physical sciences building one structure and the social sciences another, but all are uniting, each fitting and dovetailing its section into the others, in building the structure of the science of society. Moreover, even as there is a general scientific method common to all specialisms, so must there be certain generally accepted fundamental practice in technique, otherwise no scientist could profit by what had been done before without great loss of time and much duplication of effort. Although custom and usage dictate to some extent certain procedure, here again we have a variable, not a constant, for the mechanics of method, in order that they may keep pace with the ever-growing body of knowledge, must adjust and enlarge, even as do the scope and method of research. Numerous handbooks and articles, dealing with the technique of research, have been published. The student of research has had his attention called so often to the mechanics of these that many times he believes this to be the very heart of research itself, in-

stead of an important adjunct. In fact, he frequently regards it as the whole of research method, and the term "method" connotes to him sources, bibliographies, schedules and questionnaires, and the presentation of results. Here, as in other fundamentals of social research, it is important to emphasize again the fact that there are no hard and fast rules of procedure through which every problem must be carried in successive, standardized routine. The only requisite is that the method and technique shall show *vital* relationship to the problem in hand and logical development from beginning to end. These chapters, therefore, are presented with the hope that they will be read with this kept constantly in mind.

Selecting a Problem. Fundamental in any research program is the successful selection of the field, the problem, the specific subject. This is equally true whether it be the group research personnel, the advanced specialist, or the student beginner, who for our present purpose will be the first example but typical of others, with varying adaptations. All too frequently the inexperienced student has no idea what he wants to investigate, nor has he any particular field of interest, but goes casting about aimlessly, trusting to chance to throw something his way. Not infrequently he goes for help to a professor or a director of research who may pass him out a list of subjects from which to choose or who may assign to him some section of one of his own researches. This method may occasionally net good results but as a rule the subject thus chosen, although it may be of vital importance and of keen interest to the professor, is likely to be meaningless to the student, who may possess neither the training nor background for such a study nor the interest in it necessary for success in any research undertaking. When this method is utilized it should be clearly recognized as a step toward training in research methods rather than original research itself. For successful, independent research it is not enough to have a desire to do research. A fundamental requisite is a clearly defined field of investigation—a field which can be approached with enthusiasm and in which the prospect can work with well-sustained interest. This does not necessarily mean that the problem must be stated in final form nor every detail worked out before beginning to consult sources or to work up a bibliography. This is especially true where one of the

purposes of these initial steps of procedure is to assist in the formulation of a definite statement of the problem. In fact, it sometimes happens that a project is well under way before the investigator discovers the inadequacy of his procedure or the necessity for either delimiting his subject further or increasing its scope, or the inadvisability of pushing his studies further because of the dearth of obtainable material or inability to secure the necessary data due to any number of various reasons. However, an investigation of importance once undertaken should be pushed vigorously to its successful completion and should never be abandoned until every possibility for carrying on the work has been exhausted.

Defining and Delimiting the Subject. The fact that a research project need not necessarily be reduced to its lowest terms at once must not be construed to mean that it is unnecessary to have adequate definition and delimitation of the subject before the study begins. As a matter of actual procedure, proper delimitation is a first essential. For example, a student is interested in labor and labor relations, a general field composed of a large number of specific, detailed parts. Of the many from which he may choose, suppose the student finds that he is interested primarily in wages, then he narrows his subject further to the wages of women, but is still not ready to begin work, for even here a number of specialized fields are involved. Shall he begin by studying the wages of women in a particular industry in a given section and then compare his findings with the wages of women in the same industry in another section, or shall he make a comparative study of the wages of women in skilled and unskilled occupations in a given area, or shall he combine his wage study with a cost of living study to learn whether women are receiving what is frequently termed a "living wage"? These are but a few of the many possibilities which may be cited to indicate some idea of what should be done even before beginning to consult the general sources. In fact, unless this has been done the student will find himself involved in much useless labor, since he will be looking up material and getting data in a widely scattered field. The importance of careful definition and especially of accurate delimitation can scarcely be overestimated, since libraries are already flooded with volumes purporting to be research but which are nothing more than generalized, rambling description. A crying need in social research always, but especially

in the newer program, is that the research specialist know what he is about, be specific, and proceed to prepare himself for his work

Preparing for the Study. All research presupposes some knowledge of the field from which the problem has been chosen. It is important at the very outset, therefore, to obtain the necessary background and knowledge of the selected problem before beginning to assemble specific data for the study. No research should be undertaken without definite knowledge of what has already been done in the subject to be investigated and of the findings of any studies that have been undertaken. There is a feeling among some research specialists that one should proceed regardless of what has already been done and without taking cognizance of the findings of previous researches. Rarely, however, is anything gained by not knowing what has already been done, whereas a knowledge of previous studies does much to prevent duplication of effort and to avoid mistakes of previous methods. In some cases it may prove advantageous to be ignorant of earlier findings, since such findings may act as a bias and so prevent approach to the problem with a wholly open mind. However, the research specialist who cannot present results based upon his data only, regardless of what others have shown, is lacking in the essential qualities of the research specialist as outlined in the previous chapter. It is possible, however, to become so engrossed and merged in what has already been done as not only to delay unnecessarily and indeterminately the work on his own project but to result also in loss of perspective. There must, of course, be critical study of the problem in order to determine all the factors involved but the student can be lining up his own research at the same time. He can be determining his method of procedure, evolving his schedules or questionnaires, if these are to be used, defining his units, and formulating working hypotheses. Three viewpoints are found in W. C. Schluter's *How to Do Research Work*, Robert E. Chaddock's *Principles and Methods of Statistics* and Willford I. King's *Elements of Statistical Method*.

Schluter, in his discussion (pp. 77-81), advises that "without a precise understanding of the sources and data required, the procedure of collecting the data is likely to be desultory and meaningless. Critical study of the elements in the problem, together with the required data determined upon, should net concise knowledge of the nature of the data that should be col-

lected. The method and procedure to be employed in collecting data are clearly predicated upon the nature and form of the data required and upon the nature of the sources" *Chaddock* (pp 371-374) considers as the first step in the making of a statistical study, bringing together all the "known factors involved in the problem" in order that the new material may be made "comparable and continuous with what is already in existence" He emphasizes further the importance of gathering all the essential factors involved since "until the inquiry includes at least the most probable factors, no valid conclusions can be drawn, nor can the relative importance of the factors involved be estimated" This serves further as a check on "what material should be gathered, with what degree of accuracy, or how it should be collected" Also with reference to statistical data, *King* lists "problems, factors, units, questions, schedules, enumerators, tabulation, methods of work, time, expense, etc," as "among the items that must be carefully gone over in minute detail" (p 47) *Chaddock* also considers the working hypothesis essential in "the planning and carrying out of a statistical investigation . It is held with the definite purpose of including in the investigation all available and pertinent data, either to prove or disprove the hypothesis An hypothesis of this character is usually desirable and even essential It gives point to the inquiry, and, if founded on sufficient previous knowledge, gives the lines of the investigation Without it much useless data may be collected in the hope that nothing essential will be omitted, or important data may be omitted which could have been easily included if the purposes of the inquiry had been more carefully defined Blind gathering of masses of data does not usually lead to the discovery of unexpected relations between facts or result in new explanations" And finally *Chaddock* cautions the student never to "accept published quantitative data at their face value They may not be adequate for the purpose in view, and we must go behind the published figures in order to discover their possible limitations"

Obtaining Data from Primary Sources. Data may be secured from primary sources by direct or indirect methods or by a combination of the two Moreover, there is more than one method, whether it be direct or indirect Here again the research student is governed by the nature of the problem, by the resources at hand, and also by the exercise of judgment If the project involves an extensive survey, the student must decide whether it is advisable for him to collect the data himself over an extended period or whether it would be more advantageous to condense the work into

a briefer period by using enumerators. When the emphasis is upon the comprehensiveness of the study, as for example the United States Census in which scattering the collection over a long period would largely invalidate the comparability of the data, carefully trained enumerators should be employed. The time element is also important in studies of lesser scope as in a statistical study of agricultural credit where loans are made and repaid during definite periods of the year. But where the scope is limited and the number of cases small, more satisfactory returns are secured when the student does his own interviewing whether he is gathering certain specific facts about each subject or whether he is compiling life histories. Personal correspondence is also a direct method of securing data when the subjects are scattered over a wide area. Personal letters often prove helpful, but questionnaires are sometimes less satisfactory than using the indirect method of enumerators. It may be argued that the questionnaire may be used to secure data of a nature different from those gathered by means of a schedule. This again depends upon the kind of questions asked, the purpose of the study, and the confidence which one places in questionnaire returns. Here again the student must exercise discrimination and judgment. These two techniques are often used to supplement each other.

Continuing the previous references *King* gives as methods of primary investigation personal investigation for intensive studies, estimates from correspondents for approximate results or the use of agents to collect the estimates, schedules to be filled in by informants when it is desired to cover a large territory (pp 47-51). For gathering first hand statistical data, *Chaddock* suggests personal inquiry and enumerators or special agents (pp 374-375). *Schluter* lists four direct methods of securing data from primary sources personal observation of the phenomena under actual or real conditions, personal observation of the phenomena under artificial or arbitrarily created conditions, personal interview, personal correspondence including letters and questionnaires (pp 77-81). As to indirect methods he suggests assistants or hired investigators and utilizing material collected by reliable sources, after careful scrutiny of the method of collection and proof that they have undergone no change or only minor changes.

Secondary Investigation. By secondary investigation is generally meant utilizing as a basis for the study data already col-

lected, instead of collecting one's material at first hand. When data of this kind are used they must be analyzed carefully. The source must be known, details as to the method of collection, available, all units accurately defined, the purpose for which the material was originally gathered taken into consideration. Unless these basic facts can be ascertained and evaluated the data had best be discarded. Whenever possible, compilations should not be used but the source or sources of such compiled data should be consulted. For example, a book such as the *World Almanac* should not be considered as an entirely reliable source even though its material is compiled from the United States Census since mistakes occur often in compilations, but the data should be gathered directly from the Census.

In speaking of the secondary investigation, *King* says, "For this sort of an investigation, the preliminary work that can be done is slight. Nearly everything depends on the material collected and plans for the collection are therefore difficult to formulate" (pp 47-51). As a measure of evaluation he mentions five criteria—the sources from which the figures have been derived, the definitions of the units, including the instructions to the enumerators, the purpose for which the data were originally collected, the methods used in collecting the same, the degree of accuracy of the figures. Some precautions in the use of secondary data mentioned by *Horace Secrist* in his *Introduction to Statistical Methods* (pp 19-28) are the attempt to guard against the bias or unrepresentative character of the material, the applicability of the data to the problems being considered, whether the data are exclusive or inclusive, whether units of measurement are simple or composite, a determination of the accuracy of the data, the homogeneity of conditions which the data describe. And *Chaddock* emphasizes particularly the importance of accurate definition of the statistical unit when he writes, "Quantitative data, the raw materials to which statistical methods are applied, can be accurately collected only when the unit to be counted, measured, or estimated has been carefully defined . . . The unit must have the same meaning and scope at different times or in different places between which comparisons are to be made. Every attempt should be made to adopt objective tests in defining the unit and to avoid the influence of personal interpretation and bias" (pp 371-374).

Library Research. Problems of social research are sometimes classified in two general groups those based primarily upon li-

brary research, and those requiring field work for source materials. But whether the problem is to be investigated from primary or secondary sources, whether it is a history of the Negro in the United States from 1800 to 1860, or whether it is a survey of the local community, the initial proceeding is the same in all cases. Certain general sources must be consulted, even though in some cases the actual data are to be secured through field work while others will deal almost entirely with documentary sources. Therefore, a knowledge of these general sources should be had by all research students, regardless of their special field of interest or activity. If the research prospect be preparing for original research himself or for directing research it is peculiarly and exclusively necessary to have understanding and practice in library research. If, on the other hand, he is to become primarily a technician and assistant there is no way out of mastering library technique. Research assistants often gather library material—whether it be from primary or secondary sources—for the specialist who is making the study. In this way much of the detailed, time-consuming, mechanical part of the work is turned over to assistants who occupy the same place as the enumerators in field investigations. Although this is apparently satisfactory to many research scholars, there are others who maintain that much of the context, the interpretation, the spirit and "feel" of the material is lost when the data are gathered by others. This is especially true when working with sources such as diaries, letters, old newspapers, magazines—sources that are colored not only by the individuals writing them but by the period which produced them. Since in this, as in all research, gathering the data is one of the most important phases—for no study is more accurate or authentic than the material upon which it is based—the person who is responsible for the study must use his judgment as to whether assistants should be employed or whether better results will be obtained by his gathering the material himself. Here again certain minor tasks might be delegated to the assistant while the specialist took care of the essentials himself.

For most undergraduate students the introduction to the library usually comes through the Freshman or other English courses, and, for one reason or another, they often get the impression that what they learn about card catalogs, periodical indexes, encyclopædias, and other general sources, is in some intangible

way inseparably bound up with English, but bears only a remote, if any, relation to other disciplines. This may be due, at least in part, to the fact that when presenting a paper in economics, in history, or in sociology, or in some other subject, the student is not always required to hand in a carefully prepared bibliography, or a well worked out table of contents, or exercise precision in the matter of references and footnotes. In many cases, too, the student finds it an easy matter to rely on the "reserve shelf" for material, or call upon the reference librarian. And it is not unusual to find students who know how to secure ready access to books, but never think of the possibilities of learned journals, periodicals, newspapers, and pamphlets. And it is this class of general sources that is so important for the research student in the social sciences since it contains much of the newest and best material. There are also organizations and individuals who may be called upon to supply data, but the possibilities of the library should be exhausted before such resources are called upon.

Catalogs and Indexes. As a general rule, for library sources, the card catalog is the first source of information consulted. Here are indexed all books and pamphlets but not articles in journals or magazines. References are listed according to author and also according to subject, and it is the latter which frequently troubles the student because he looks up his subject under one general heading and forgets the many sub-topics which are included, as well as the closely related fields that bear directly on the subject. For example, suppose the investigator wished to find out what studies had been made on parental education. Some subjects under which information germane to this field might be found would be education, adult education, parenthood, parents, marriage, pre-marriage education, children, to mention only a few. This suggestion, of course, holds for any subject index, whether it be for books, pamphlets, special reports, government publications, or articles in periodicals or journals. Many reference libraries have a card catalog of the books in the Library of Congress, which, however, is arranged only according to authors. The subject index of the Library of Congress is found only in the Library itself in Washington, where a volume of every publication copyrighted in the United States may be found.

Probably the most widely consulted index is the *Readers' Guide to Periodical Literature*, a monthly index to articles in important

periodicals Prior to 1900, this was known as *Poole's Index*, while *Poole's Index Supplement* existed until 1907. *The International Index to Periodicals*, which, prior to 1920, was the *Readers' Guide Supplement*, overlaps, to some extent, with the *Readers' Guide*, but covers largely the more learned and technical journals. The *Subject Index to Periodicals*, 1915-1919, is an English publication. It duplicates largely the material found in the *Readers' Guide* and the *Readers' Guide Supplement*, but also indexes many periodicals not covered by the American publication, especially those covering British local history and the proceedings of antiquarian societies. A valuable aid to the research student in the social sciences is *Public Affairs Information Service*, which is the best guide to legislation and other public questions. The *Book Review Digest* refers to reviews of recent books, a large number being of a popular nature. The *Industrial Arts Index* and the *Agricultural Index* deal with specialized material as the names imply. Newspaper files, such as the *New York Times Index* and the *United States Daily*, also furnish valuable data for the social science student. *Social Science Abstracts*, published monthly, beginning March 1929, will carry annually abstracts of some 20,000 articles selected from more than 250 periodicals in economics, sociology, political science, and statistics.

Special References and Sources. Three types of special references most commonly available include general and special reference books, government publications, proceedings, and "fugitive" materials from various research and social work agencies. Among the most valuable of the newer source books will be the new *Encyclopædia of the Social Sciences* and the case books on social research both of which have been promoted by the Social Science Research Council. The case books will afford a wealth of material on methodology in the social sciences and especially provide rich illustrative examples. The new *Encyclopædia of the Social Sciences* now in preparation and to the "Memorandum" of which reference was made in Chapter IV, is planned to contain about ten volumes of approximately 800,000 words each, and to deal with certain aspects of economics, sociology, history, political science, statistics, anthropology, jurisprudence, psychology, geography, biology, philosophy, ethics, education, comparative philology, esthetics, and religion. Government publications are numerous and varied and include those from state, county, and national bureaus and departments and provide a rich source of research

material often neglected. In his discussion of "Economics as a Field of Research" in the November, 1927, *Quarterly Journal of Economics*, already referred to in previous chapters, Allyn A. Young expresses the opinion that the United States Census has been greatly underestimated as a source of social data of great importance both for actual contributions and for training in method. The same is easily true of many other publications which lie all around the research prospect who is often floundering about for much less valuable materials.

Of the special and general reference volumes the following are types which are valuable in providing "leads" and approaches, and sometimes orientation in a problem: the *Encyclopedia Americana*, *The World Almanac*, *The American Year Book*, the new *Dictionary of American Biography*, one volume out in 1928, *The American Labor Yearbook*, *The Negro Yearbook*, *The Statesman's Yearbook*, *Who's Who* (British), *Who's Who in America*, *American Men of Science*, *RUS* (rural leaders). Among the government publications the decennial census, published by the Bureau of the Census under the United States Department of Commerce deserves special mention because of its comprehensive scope. It contains quantities of statistical data with reference to the population, agriculture, manufacturing, mining, and varied aspects of American life. This Bureau, however, does not confine its publications to the decennial census, but issues annual reports on vital statistics and financial statistics of cities and states, and special reports on many subjects at irregular intervals. Many of the federal departments and bureaus furnish through their various publications valuable source material for the student of social research, as for example a *Survey of Current Business* and a *Weekly Health Index* by the Bureau of the Census, the *Monthly Labor Review* by the Bureau of Labor Statistics, annual *Statistical Abstract of the United States*, *Commerce Yearbook*, monthly *Summary of Foreign Commerce*, weekly *Commerce Reports* by the Bureau of Foreign and Domestic Commerce, weekly bulletin on *Weather, Crops and Markets* by the Department of Agriculture, special health report by the United States Public Health Department, monthly *Federal Reserve Bulletin* by the Federal Reserve Board, statistical reports on transportation by the Interstate Commerce Commission, bulletins and reports of the Women's Bureau and the Children's Bureau, annual report of the Commissioner-General of Immigration. A comparable list may be found in Jerome Davis', "Finding the Truth in Current Issues," in *Social Forces*, IV, 729-736. The various state departments of labor and of welfare issue re-

ports and, at times, special bulletins, but many of these are not especially valuable for research purposes. *Research agencies* and other *private organizations* also make public their findings in books, periodicals, monographs, but the nature and purpose of such organizations and the specific character of each individual output, must determine the value of these varied publications and should serve to guide the research student in discriminating between research and propaganda, or at least to suggest the advisability of searching further before accepting unquestioningly certain so-called "scientific facts." As a matter of record, there are, however, many valuable publications from this source. Examples of worthy collections may be found in the field of rural research where "laboratories" are developed such as at Washington with J C Galpin, University of North Carolina with E C Branson, Cornell University with Dwight Sanderson, and the University of Wisconsin with J H Kolb, and many others. There are of course *other sources* helpful for particular types of research. In making a social survey materials on legislation would be valuable as well as proceedings of various administrative agencies, data secured from officials, business men, teachers, and social workers, city charters and ordinances, statutes of the federal government as well as laws of the states, records of the Health Board, police department rules and regulations, and much unofficial data secured from industries, banks, insurance companies. Carol Aronovici in *The Social Survey* and Manuel C Elmer in *Technique of Social Surveys* take up in detail both the official and unofficial sources of information for social surveys and also have appended excellent bibliographies. In the use of the case method, data are secured largely through personal interviews. Life histories, of individuals as well as communities, are exceedingly valuable sources of information. Among other documents letters are some of the most fruitful sources of information. However, because, there are many research agencies, government departments, and private organizations from which valuable material may be obtained, there is no license for promiscuous writing and inquiring for data without careful planning and common sense methods. This is true not only to protect the agencies and to enhance the standing of the "researcher," but to avoid that mania for collecting materials, merely as material, already mentioned in Chapter XX.

Journals and Periodicals. It is from learned and technical journals, periodicals, newspapers, and magazines of a semi-popular nature that the student of social research often gets some of his most valuable clues. He should acquaint himself, therefore, with the possibilities in this field. In a subsequent division much is said

about the importance of reading widely and well. Suffice it to say here that it is of the utmost importance to acquire the ability to find and evaluate all materials of whatever sort in current and past periodicals, from the leading articles right through book reviews. In Chapter V, dealing with "The Range of Social Research," we called attention to the very large number and variety of learned journals, with, for instance, 102 in economics, 60 in sociology, 42 in political science, and ten in statistics.

Some of the American publications are ANTHROPOLOGY—*American Anthropologist*, *American Journal of Physical Anthropology*, *Journal of American Folk Lore* BIOLOGY—*Quarterly Review of Biology*, *Journal of Heredity* ECONOMICS—*American Economic Review*, *Quarterly Journal of Economics*, *Journal of Political Economy*, *Journal of Economic and Business History*. GEOGRAPHY—*Journal of Geography*, *Geographical Review*, *Annals of the Association of American Geographers*. HISTORY—*American Historical Review*, *Historical Outlook*, *Current History* JURISPRUDENCE—*American Journal of International Law*, *American Law Review*, *Journal of the American Institute of Criminal Law and Criminology* LABOR—*Monthly Labor Review*, *American Labor Legislation Review*, *American Federationist* POLITICAL SCIENCE—*American Political Science Review*, *Political Science Quarterly*, *Annals of the American Academy of Political and Social Science* PSYCHOLOGY—*American Journal of Psychology*, *Journal of Abnormal and Social Psychology*, *American Journal of Psychiatry*, *Journal of Applied Psychology*, *Pedagogical Seminary* and *Journal of Genetic Psychology* SOCIOLOGY—*American Journal of Sociology*, *Social Forces*, *Sociology and Social Research*, *Journal of Educational Sociology* SOCIAL STUDY AND SOCIAL WORK—*Survey*, *Social Service Review*, *The Family*, *Playground*, *Better Times*, *Opportunity* STATISTICS—*Journal of the American Statistical Association*. Some of the great number of miscellaneous periodicals which publish material bearing on the social sciences are *American Mercury*, *Atlantic Monthly*, *Century*, *Harper's*, *Independent*, *Nation*, *New Republic*, *Outlook*, *South Atlantic Quarterly*, *Scientific Monthly*, *Virginia Quarterly Review*, *Yale Review*. Among the foreign publications are *Contemporary Review*, *Economica*, *Edinburgh Review*, *Euro-paische Gesprache*, *Journal de Droit International*, *Zeitschrift fur Volkerrecht*, *British Journal of Psychology*, *Metron*, *Economic Journal*, *The Quarterly Journal of the Royal Economic Society*, *Journal of the Royal Statistical Association*, *Sociological Review*, *L'Anthropologie*, *Revue Economique Internationale*, *Revue Internationale de Sociologie*, *Archiv fur Sozialwissenschaft und Sozial-*

politik, *Zeitschrift fur Volkerpsychologie und Soziologie*, *International Labor Review*, *Journal de la Société de Statistique de Paris*. A recent list of American journals in the humanistic and the social sciences has been published in Bulletin No 8 (October, 1928), of the American Council of Learned Societies.

Bibliographies. A sort of standard source of information is found in bibliographies of various kinds. Possibly the most usual kind of bibliography is that found in books themselves. Such a bibliography consists of a detailed list of books, articles in periodicals and journals, government publications, documentary sources, pamphlets, monographs, and other miscellaneous material, dealing with the subject matter of the book. These bibliographies are frequently of great length covering many pages and often include publications related only remotely to the subject at hand. The titles are usually arranged alphabetically according to authors, there is, however, frequently a classification according to the kind of publication—books being listed first, then articles in periodicals, government publications, and so on, the author using as many divisions and sub-divisions as he deems advisable for an adequate presentation of his material. There is sometimes no attempt at selection or annotation. Sometimes the works and articles cited were published within a definite period, but this does not follow in all cases. The chief value of a bibliography of this kind is to give the student some idea of the extent and scope of the material on hand. Although such a bibliography makes no attempt at evaluation, there is value in its impersonality and objectivity, since a selected bibliography always remains, to some extent, subjective. An inclusive bibliography is always more helpful, however, when there is some attempt at annotation, but appended bibliographies are seldom annotated. Such annotated bibliographies are usually specially prepared.

Of the bibliographies in the social sciences, the "selected lists" issued by the *Library of Congress* and revised from time to time are important. These contain references to the best book and periodical literature on many subjects such as child labor, the tariff, political parties, and others. The *Russell Sage Foundation* maintains a bibliographical service which issues, at small cost, bi-monthly bibliographies on such subjects as country planning, adult education, community organization, industrial and labor problems, directories of social agencies, social case

work, crime prevention and crime repression, the purpose and methods of general social surveys, books on social subjects published during the year, boys' and girls' clubs, motion pictures. The *New York Public Library* publishes from time to time in its Bulletin useful bibliographies on marriage and divorce, criminology, minimum wage, social and economic aspects of war, government control of public utilities. These are usually reprinted as separates and are especially useful when larger and fuller lists than those issued by the Library of Congress are wanted. Reference works like the American Library Association's *New Guide to Reference Books* by Isadore Gilbert Mudge and *Bibliography, Enumerative and Historical* by Henry B. Van Hoesen and Frank K. Walter are invaluable aids in "running down" bibliographies. Comprehensive bibliographies, often annotated, covering specific subjects or even phases of subjects and entailing a vast amount of research are compiled by specialists in the varying fields and by reference librarians. Such are the *New Larned History for Ready Reference* by Josephus N. Larned, *Guide to the Reading and Study of American History* by Channing, Hart and Turner, *A Guide to the Printed Materials for English Social and Economic History* by Judith Blow Williams, *Bibliography of the Cotton Manufacture* by Charles J. H. Woodbury, *Handwörterbuch der Staatswissenschaften* by J. Conrad, L. Elster, and others. A selected bibliography is of value when it is selected carefully since it eliminates much unnecessary work on the part of the student. However, unless the compiler is well known there is always danger that it has been done hastily and carelessly, and it may then be misleading. When using a selected bibliography, the student must also bear in mind that these are the sources which the author has found useful and helpful in his particular study and may bear, therefore, upon only one phase. Moreover, there is always present something of the subjective. A list of selected references at the end of each chapter is helpful, especially when particular chapters or pages are cited. Valuable bibliographical material may also be obtained from footnotes, especially when the study is painstakingly documented.

Making up a Bibliography. The bibliography is not only fundamental in providing sources but also as an exercise in procedure itself. Martha Hale Shackford says, in her article "For Better Bibliographies," *Educational Review*, 57, pp. 434-438, "Bibliographies are not all of scholarship, but they are fundamental. The power of compiling a satisfactory bibliography means skill in organization, judgment, exactness, precision. There is no penalty for negligence in this matter, but attention to it arouses active grati-

tude" It is sometimes thought that the chief, if not the only, purpose of a bibliography is to give credit to other authors Although this is one purpose, a more important reason for the bibliography is its value as a source of reference A bibliography hastily thrown together without plan or form defeats, therefore, one of its main uses since it is practically impossible for anyone to do anything with a conglomerate mass of references Even for the compiler's personal use it is essential to follow some definite plan in the organization of his bibliography Many individuals experiment with various ways However, small cards, 3" x 5", provide the most practical way of assembling a bibliography since they can be shifted about easily and permit titles to be inserted or withdrawn as needed Only one publication should be listed on a card No reference is complete unless it contains the name of the author, the book or article, the place of publication, the publisher, and the date of publication

The importance of the source or sources of data cannot be over-emphasized Accordingly it is often advisable to divide a bibliography into "primary" or "source" materials and "secondary" sources or materials The nature and purpose of the study often determines whether a source is primary or secondary Therefore, no arbitrary rules can be drawn, since what may be secondary material of the lowest order for one study may be a valuable primary source for another However, primary sources usually include, "data assembled without prejudice by governments, private industry, or individuals in their direct contact with the problem under investigation, decisions and reports of duly constituted governmental agencies and private institutions, and books of account and statistical data prepared as guides to business or governmental policies," while secondary sources usually include "books, periodicals, newspapers, etc , that represent by some individual or group of individuals material of the first order, or of other material of a secondary nature" Compare this with Kibler's "Business Research—Significance and Technique," in *Social Forces*, IV, 722-729

No attempt at evaluation should be made during the initial stages of bibliography making, but any work bearing even remotely on the subject should be included, a selection can be attempted later if desired Cards can be filed alphabetically

according to authors, or subjects, or arranged chronologically. The last is perhaps the least desirable. A combination of the first two often proves quite helpful. The objection here is that many references would have to be duplicated under different subjects. However, if one is planning for chapter bibliographies or a bibliography classified according to subjects, this would be the best arrangement to follow. The suggestion is often made that when the bibliography includes many different kinds of publications, it is helpful to use different colored cards, distinguishing between books, periodicals, government pamphlets, documents, newspapers, and other sources. This may be advisable where a direct alphabetic index is kept according to authors and where it is desired later to present the bibliography classified according to the nature of the publication. Sometimes, too, different colors are used to distinguish between primary and secondary sources, between direct and indirect references. Such points are best decided by the student himself, for what may be a help to one may be but a hindrance to another. If the completed bibliography shows "skill in organization, judgment, exactness, precision," it will meet the purposes for which it is intended—that is, it will be not merely an acknowledgment of indebtedness to other authors, but will serve as a valuable guide for those who follow.

Reading and Readings. It is not advisable to wait for what appears to be a rather complete bibliography before beginning to read, but reading may begin as soon as the bibliography is under way and the two proceed simultaneously. The bibliography remains tentative and constantly subject to change until the manuscript is completed and the bibliography appended. The initial bibliography serves as a guide and would scarcely be adequate if the original set-up were the same as the final compilation. In fact, research procedure can hardly be classified as firstly, secondly, thirdly, and so on. It can be suggested that a topic be chosen, that it be defined and delimited, that the subject be outlined, that a bibliography be compiled, to be followed by reading, note taking, organization, analysis, interpretation, and the presentation of results. Some such orderly procedure should be held in mind and certain preliminary steps taken as already suggested, but aside from this there must be a flexibility of procedure which permits of constant interchange and modification with additions and eliminations, as well as a possible shifting of emphasis, which affect not only the bibliography, but the outline, scope of reading, and even

the definition and delimitation of the project itself. Reading plays an important part in this tying up of the whole, for, as it proceeds, the entire emphasis of a project may be shifted and the problem take on new significance. It is, therefore, important that one read widely as well as wisely. One should not be afraid to go outside of a narrowly chosen field for it is in this way that frequently new leads are found. It is not recommended, of course, that unlimited time be spent in reading, for even if the project is one requiring no field work, it is possible to spend an undue amount of time gathering material. There should always be certain limits, for there is nothing easier than to go wandering off into forbidden by-paths. This does not preclude the possibility of reading carefully, or sympathetically, or critically, even though it may necessitate reading rapidly. It is through careful reading that an evaluation of data is obtained. Nevertheless, the importance of reading rapidly cannot be overemphasized. There is an erroneous idea that slow reading is more conducive to careful, thorough reading than is rapid reading. In most instances, the slow reader gleans no more from his readings than does the person who has trained himself to read quickly. Carter V. Good in *The Supplementary Reading Assignment* indicates that unless it is desired to memorize one particular text, extensive reading is of more value than intensive, and that aside from minute details, rapid, extensive reading is worth more than slow, intensive reading.

Robert S. Lynd discusses this matter of rapid reading in *The Publishers' Weekly*, 111, pp. 196-197. In his article, "I Wish I Had More Time to Read," he says, ". . . most of us are spendthrift readers. Owing to faulty reading habits, we waste from ten to thirty minutes of each hour of reading. A study of a random group of twenty adults, when reading silently to themselves at their ordinary rates, showed that their reading speeds varied all the way from 2.5 to 9.8 words per second. . . . A slow reader can teach himself to read more rapidly without loss of effectiveness of understanding of the content read or in the flavor of the author's style. Experimental evidence does not bear out the traditional belief under which most of us were brought up that slow readers make up for their slowness by more thorough comprehension." Then follow some simple rules recommended by educators to increase one's speed in reading:

1. Force yourself to read more rapidly than feels comfortable.
- This is the most important rule of all.
2. Make as few

stops or eye-'fixations' in each line as possible. In reading, the eye moves not continuously, but by jerks and pauses. 3. Do not allow the eye to break its forward sweep by wandering back in regressive movements to pick up something you have missed. 4. Establish a regular rhythm of eye-movements adapted to the length of line and subject matter of each book you read. 5. Do not pronounce the words as you read or even allow your lips to move silently, as this slows up reading. 6. Test yourself by reading for fifteen minutes in some standard book like Bryce's 'American Commonwealth' and then count the number of lines read. Repeat this test once a fortnight for two months and note your substantial progress. 7. Discriminate among types of reading. Cultivate the knack of shifting gears according to the grade of the reading in your hand at the moment. 8. And, finally have some flexibility and sense of humor about all this business. Don't go dancing off with the idea that nothing is worth rolling under one's literary tongue, or that we counsel dashing thru the 'Ode on a Grecian Urn'."

Taking Notes. In his *Problems and Methods of Literary History* (pp. 289-296), André Morize counsels the student "never let anything turn up without immediately making a note of it." Since this is one of the essential phases of research technique it is important that it be done well. And not to trust to memory is the first caution. It is easy to fall into careless habits of note taking. There are four major questions regarding note taking as presented by John M. Manly and Edith Rickert in *The Writer's Index*: what to take, how much to take, whether to quote or cite, what form to give the notes. Each individual must solve his own problem and method but, just as the use of cards was suggested for the bibliography, so separate cards or sheets are usually the most convenient and practicable for taking notes.

But a slightly larger card than the 3" x 5" size often serves this purpose better, since it is advisable to write on only one side. Any card or sheet used should be of some standard size—3" x 5", 4" x 6", 5" x 8", 8½" x 11"—with the usual preference being that of the 4" x 6" card. Every reference, even though it be only a line, should be put on a separate card, since cards can be inserted, taken out, shifted from one position to another. If grouped according to chapter or subjects, they can be taken out of the files as needed, arranged according to the chapter outline, and the writing of the manuscript proceed without delay. A loose leaf notebook might serve the purpose, if properly indexed, and if only

one side of the page were used, but even this would be more cumbersome and less flexible than the card system. Notebooks do very well for classroom or lecture notes, or sometimes for life histories. In this event, the right side of the page only should be used for the facts presented, while any subjective interpretation or further lead should be set down on the left hand page immediately opposite. The size of the notebooks depends upon their purpose. For example, if life histories are being gathered, each life history should be in a separate book. For this purpose, a number of notebooks of regulation size but containing only from twenty to fifty pages, would be more practicable than a number of heavy books or even one regular notebook. A loose leaf book would also serve well in this case, since the separate leaves could be taken out from time to time and filed, and others inserted. It is sometimes suggested that lengthy references be placed on large sheets of paper, but it is often found advisable to use several cards for a reference rather than large sheets. When typing references, cards are not so convenient since they do not slip in and out of the typewriter easily. To lessen this difficulty, paper cut the same size as the cards can be secured for this purpose. Or if the regular typewriter size is used— $8\frac{1}{2}'' \times 11''$ —the sheets might be cut in half. But whatever the size of the sheet or card used, they should be of uniform size and material, and in every case only one reference put on a page.

Length of Notes. For the most part it is best to make references as brief as possible. Much time and energy can be saved if irrelevant matter is discarded at the beginning. To copy page after page, making no attempt to digest the material or to separate fact from opinion, to include long descriptions and illustrative material, necessitates, when the project is ready to be written up, ploughing through a lot of data not at all germane to the subject in hand. Not only has valuable time been spent in reading the material twice, but many valuable hours have been spent in copying irrelevant matter.

Of course, it is always better to have too much than too little, even though some of it may never be used. The idea that one may use what is left over for another study is, as a rule, fallacious, for it becomes cold and lifeless before the new study has been begun. Of course, "leads" for new studies are often secured while reading, and these should be noted immediately, but filed separately. When material from another source is quoted in reading, the source should be noted, and, if possible, the original should be consulted for the reference. Where the origi-

nal is not available, and it is desired to use the quotation, it should be stated definitely where it was found Of course, a reference should include the setting, for an isolated fact sometimes conveys a different impression from what it does in its context, and at times even gives the impression of misquoting Note taking should be a thought-stimulating, thought-provoking process, and not merely a routine, mechanical proceeding For this reason it is better, even for the research specialist to do his own reading and take his own notes whenever possible, otherwise it is difficult for him to acquire a "feeling" for it—to get the impression of it as a whole Notes should be brief and concise, yet complete and exact Where brevity has been carried to an extreme, notes are meaningless, and they must either be cast aside with the danger of losing essential material, or valuable time must be spent in looking them up again The question as to whether to quote or cite is always a relative one Much depends upon the nature and the purpose of the study and the material In quoting, the exact words of the author are used and are enclosed in quotation marks, while in citing, the substance of the author's comments is given and no quotation marks are used In both cases, however, full credit must be given to the author, by recording the exact reference of the quotation or citation Unless the desire is to condense a lengthy passage into a few lines, there is no particular advantage to be gained by citation In fact, the danger of misinterpreting an author is so great, that, unless it be for the sake of conciseness or smoothness, actual quotation is safer *Manly* and *Rickert*, in the work cited above, list the following circumstances under which quotation is to be preferred to citation "1 When the point is extremely important, 2 When the point is one to be refuted, 3 When the idea is stated in such a way that misrepresentation would be possible, 4 When the matter is of some difficulty, and you are not sure that your citation would be exactly representative, 5. When a point is stated so effectively (and still briefly) that the quotation would add interest to your paper" During the note taking period it is frequently impossible to know just how much one will want to quote or to cite in the finished manuscript, and it is therefore justifiable to quote freely in notes unless it is already known definitely that a citation will be adequate.

Details of Taking Notes. Among the innumerable further details of note taking are legibility, accuracy, complete details as to the location and identification of the reference Legibility is a requisite of good note taking Cards should not be crowded—rather more than one card should be used. If notes are written, rather

than typed, ink or a fairly hard pencil, should be used to write clearly and legibly and correctly. This is especially true when noting authors, titles of books, publishers, and other data which cannot be had easily from the context. Many a student has not been able to locate a reference in the card catalog, either because he could not read his writing or because he had misspelled the name.

The use of a typewriter is always advantageous. The source should be given fully, so that every reference may be easily identified and located. At the top of the first card or sheet, there should be the full name of the author with the surname first, then the name of the book, and at least the date of publication, if not the place and publisher, and the page reference. In the case of a periodical reference, the name of the author should be followed by the name of the article with the periodical, giving volume or issue, and page numbers. Any and all marks of identification should be included such as new or revised edition, the number of the volume, if the work appears in more than one volume, if a translation, the name of the translator as well as of the author. If more than one card is required for a reference, each succeeding card should bear its number in the sequence—2, 3, 4—as well as the name of the author and the work. Where a reference covering several pages is copied, the material found on each page should be indicated. For example, if pages 245 to 250 are copied, p 245 should be placed at the beginning of the reference. As soon as this page is finished, p 246 should be indicated before beginning the material on this page, and so through to the end of the reference. This is advantageous if, in the finished paper, it is desired to quote the reference in sections, instead of as a whole, especially if the order is reversed at any time. References will then be definite and exact, and not vague or general. Of course, there are also times when one wishes to refer the reader to pp 245-250, even though only a sentence or two from the entire reference may be quoted or a brief section cited. For example, it may be possible to sum up an author's thesis in a hundred or two hundred words and yet one would refer the reader possibly to the entire volume, or at least to chapters or sections rather than one or two page references. Whenever direct quotations are used, everything should be copied exactly as it is—capitals, punctuation, spelling, paragraphing—and enclosed in quotation marks. If words or sentences are omitted, three dots (four at the end of a sentence) will indicate the omission. If one or more paragraphs are omitted, the dots should extend across the entire page. In case of an obvious error, one of two things may be done. The material may be copied exactly as it is and

sic written after the mistake, or the error may be corrected within brackets. The former is more commonly used. When summarizing, it is economy of time and space to omit unimportant words, such as articles and connectives, and to make use of abbreviations, as for instance, vol for volume, ch for chapter, p for page and pp for pages, MS for manuscript and MSS for manuscripts. It is permissible to compile one's own abbreviations for note taking, the only requisite being that clearness be not sacrificed to brevity.

Filing Notes. It is suggested that notes be filed separately and not in the bibliography file, since it is advantageous to use a larger card for notes than for the bibliography. Furthermore, the most practical way of filing bibliography cards during the formative stage is alphabetically, according to the surname of the authors, while it is frequently found more satisfactory to file notes according to chapters or subjects. When the latter arrangement is used, care must be exercised not to maintain a rigid and inflexible classification, but additional subjects, new categories, further subdivisions, and even sometimes an entirely different treatment of the subject must be provided for and taken care of as the project takes shape and grows. And in order to do this, notes must never be allowed to grow cold, but must be read and re-read and re-worked over and over, for only in this way can they yield the maximum return.

André Morize (pp. 289-296), in his *Problems and Methods of Literary History*, aptly sums up the final steps of note taking and the ultimate goal of note taking when he says, "do not accumulate notes by the hundred and then by the thousand, only to let them lie in your boxes until the day when, deciding that your search for material is completed, you turn to its redaction. This is a deplorable method. On the contrary, reread your notes continually, the oftener the better, reread them, varying the order, reread them each time you add another extract. This constant contact with your swelling notes will be an incentive to reflections, doubts, associations of ideas, discoveries of relations and connections, that at the outset you had not suspected. Each time that an idea strikes you in this way, jot it down, without waiting a second, without waiting even to read the following note. Nothing is so fleeting as these associations of thoughts, if you do not close your hand on them when they first occur to you, they will escape and never come back. Experience proves the utility of this practice, after some

months you will be astonished to see the amount not only of external material but of personal work thus collected, and to discover how helpful are the results of this method when it is time to construct and organize."

The Interview. Through interviews and correspondence the research student has an opportunity to obtain other types of materials and to establish lasting and cordial relations. On the other hand, it is through these same media that he may do himself, his research, and the organization which is sponsoring him, permanent injury through inaccurate recording or inquiry and through tactless, careless handling of situations. An interview is made for the purpose of securing information, either about the informant himself, or about other persons or undertakings that he knows or is interested in. The purpose may be to secure a life history, to corroborate evidence got from other sources, to secure certain data which the informant possesses. An interview may also be the means of enlisting the informant's cooperation and support in the investigation about to be undertaken, or his advice, as a specialist, in the procedure to be followed. But whatever the specific purpose, the fact remains that the interviewer is asking a favor of the interviewee which it is his prerogative to grant or to refuse. Therefore, courtesy, tact, and resourcefulness cannot be over-emphasized, and are fundamental requisites for making successful interviews. It must be clear that there are no definite, specific formulæ for the conduct of successful interviews. The personalities concerned, the information sought, the time and place of the interview and the circumstances surrounding it, and the numerous psychological factors involved must be considered and given due weight in directing and modifying the approach, procedure, and conclusion of the interview.

Nevertheless, simple common sense procedure should prevail. All interviews should be prearranged by letter, telephone, or telegraph. Unless this is done the interviewer need not be surprised to find the interviewee out of town, too busy to see him, or even refusing to see him. Time and place should be stated so clearly and accurately as to leave no possibility for a mistake. For example, the day of the month as well as the day of the week and the hour of the day should be stated. The hour should be definitely stated, as eleven o'clock or three o'clock but, if that is not possible, for example, between eleven and twelve,

or between two and three. It should be remembered that lunch hours are usually between twelve and two, so appointments should not be made for those hours unless unavoidable or unless the interviewer is inviting the interviewee to have lunch with him. The informant should not be put to the embarrassment of having to invite the interviewer to lunch. If it is planned to arrive on a certain train, it is well to make mention of that fact. Dates must be correct. It is sometimes well to mention alternative dates, but in any case the final choice of time and place should be left to the interviewee. The interviewer should go to the interviewee and not ask him to come to him, unless particular circumstances make it advisable to meet at a specific place. Appointment must not be forced. If the student is not acquainted with the informant, some method of introduction through a mutual acquaintance should be secured. If this is not possible, the interviewer should make clear in his communication who he is, his official connection, if any, and his purpose in asking for an interview, but contacts through intermediaries are usually more satisfactory.

Preparing for the Interview. Careful preparation for the interview should be made in advance. The interviewer should know definitely what he is seeking and map out some course of action. It is possible, of course, that he may have to revamp and modify his plan during the course of the interview and here is where his ingenuity and resourcefulness are put to the test.

If one approach fails to get the desired results or is apparently antagonizing the interviewee, it should be abandoned and another tried, with the transition as smooth and as inconspicuous as possible. It may even be necessary to close the interview and continue it at another time, but this should be done only as a final measure, since a contact once lost is difficult to regain. The interview should be timed carefully and not prolonged after the marginal utility point has been reached. The prolonging of an interview after the informant has shown clearly that he is ready to stop is a major fault, in fact, it is well to close it while he is still alert and interested, for a return invitation can usually be counted upon under such circumstances. Questions that elicit definite answers enthusiastically given should be the rule. Leading questions should be avoided. Discretion must be used as to the advisability of taking notes during an interview. Some persons do not object to being "reported" but others do. The informant's permission to take notes or to quote him should be secured. The approach and the close of the interview are the most difficult. The interviewer should outline his project

briefly and make clear to the informant his purpose in seeking his aid. He should also state in what manner the information is to be used, otherwise the informant may hesitate to divulge information of a confidential nature. It is not always necessary that names be used in the final report. But it is often much easier to introduce a subject and to get started on it than it is to bring it to a close. The termination should not be too abrupt nor should it be a slow, painful process. Here again no rules can be laid down but it can be suggested that it be done as gracefully as possible.

Correspondence, Telephone, and Telegraph. The letter, the telephone, or telegraph message may be the introductory step to the interview, or the accompanying technique for the schedule or questionnaire discussed in the next chapter, or it may itself be the sole mode of seeking certain information essential to the research in hand. Few details can give more accurate index of the character of the investigator or the stage of his development than the well written or the poorly written letter. It may, on the one hand, set him well on his way, or it may retard his efforts beyond repair. Much the same is true of the telephone message. Their importance is measured not only in their form and manner but also as reflections of common sense and judgment. Manifestly the telephone should not be used as a primary medium for obtaining direct information or as a substitute for the personal interview, except in special instances. It must be clear also that the letter should not be substituted where other and better means of obtaining information are available. But whether utilized as an introductory step or as an end in themselves, there is the fundamental importance of the right sort of letter and the right sort of message. Skill, tact, maturity, good form are all essential requisites. The investigator who begins his letter by saying that he is one of a group of students investigating or surveying something is likely to find sparsely settled returns. On the other hand, the type of investigator who assumes undue importance, or utilizes unauthorized titles and stationery, or demands of his recipient undue services is likely to come to no good end in his first steps. Certain underlying principles involving courtesy, sincerity, skill, and foresight are always assumed. If possible the investigator who writes for information should always make the letter a genuinely personal one, approaching the recipient on grounds of common interest,

and offering in exchange for services received certain return favors, such as information about the results of the inquiry or some special item of consideration pertinent to the individual. The letter itself should carry with it enough of information or good will value to make its own way, either in bringing a reply or in leaving an impression that is an asset. It should make no false assumptions or promises, should involve no other persons or institutions in an unwarranted way, and should deal with its own subject. It is scarcely necessary to note that letters should not be sent out promiscuously or broadcast without special care in selecting lists to be addressed. A particularly abominable custom is that of writing every possible department or bureau or individual related to the specific field all sorts of requests without checking up to see whether the material is not already available or whether others have not written the same request. There are of course many other details of a more or less general nature which often trouble the research student. The question arises when asking for information whether a stamped addressed envelope should be enclosed. Here again no arbitrary or fixed rule can be quoted. One must take into consideration the existing relationship between himself and the informant, the nature of the information which is being sought, the position of the informant, and similar matters. For example, if writing to a department of the federal government or a state department or a city official, such as the mayor or city manager, it is not necessary to enclose a stamped envelope, but if writing to the chiefs of police in a number of small communities the stamped envelope would be advisable. When asking information from state superintendents of education or of public welfare a stamped, addressed envelope would be unnecessary, but inquiries from county or local boards or school superintendents or county superintendents of public welfare should be accompanied by return envelopes. Questionnaires should always be accompanied by stamped, addressed envelopes, and in such cases care should be taken to put enough postage on the return envelope. When submitting manuscripts to editors or publishers, return postage should be enclosed if the writer wishes the manuscript returned to him in case it is not accepted for publication. Not infrequently the self-addressed and stamped envelope has for its major purpose dispatch and courtesy in saving time at the other end.

Here again, as elsewhere, maturity and skill must come through common sense, experience, and training in the routine of good administrative practice and manners. The biggest mistakes may often be remedied by the simplest of means. Certainly the subject should be given considerable attention and at least the elementary rules mastered. There should be attention paid to the quality of paper, the neatness of writing and arrangement, the exactness and fullness of address. If initials and details of the individual are not available then no letter should be written until they are found. Of course it is preferable to write letters on the typewriter. The importance of typewriting and of each individual being skilled and willing to apply himself to that practice is emphasized elsewhere. But even if the typewritten letter is not always available, there is no excuse for neglect of other items of importance. And it should be remembered that the success with which the questionnaire or schedule or appointment will yield results will often depend upon the letter itself. We shall next turn to these other mechanical aids to research procedure. In the meantime, however, what *J. M. Manly* and *J. A. Powell* write in their *Manual for Writers*, (pp. 136-140), with reference to the business letter is equally applicable here. In addition to other details, they say, "The writing of the business letter is an art to which all too little attention is paid. Terseness, clearness, politeness, an avoidance of monotonous and hackneyed expressions, are all as essential as is the rigid observance of the rules of grammar, spelling, punctuation, and paragraphing. No unnecessary words should be used, nevertheless, the personality of the writer and the 'atmosphere,' so to speak, of the relations existing between the correspondents should be manifest throughout. A curt, formal, or hackneyed letter may create a poor impression—may even tend to destroy or injure business relations. A business letter should be so written as to compel attention, develop interest, create desire, or effect a decision. The successful writer of a business letter is one who sends *himself* along with his message. A succinct, well-worded, polite letter influences the recipient, unconsciously to himself, in the writer's favor."

CHAPTER XXII

TYPES OF PROCEDURE. UTILIZING AVAILABLE AIDS

In addition to personality and ordinary common sense, facility in the use of wide and varied range of general sources, in the organization and use of bibliographies, in methods and habits of reading and note taking, which are prerequisite to research equipment, there are also certain technical and mechanical devices which not only facilitate efforts in the collection and compilation of data, but which give added reliability and validity to results. Such helps as schedules and questionnaires, the use of typewriters and dictaphones, methods of duplicating, statistical aids, and filing systems are essential parts of modern research procedure and equipment. As in the preceding chapters, certain fundamental principles and guides will be given, since it is not the purpose of this volume to present in detail any particular technique such as survey making, the application of statistics, or the intricacies of historiography. It is assumed, for example, that no student will attempt a statistical study until he has at least a speaking acquaintance with statistics. He will understand, for example, the significance and application of the coefficient of correlation, standard deviation, mean deviation, probable error, the computation of an average, median, and mode, their difference, their value, and their use. He will understand the meaning and application as well as the making of charts and graphs, and other elements of the statistical process. In like manner no attempt will be made to do more than lay down certain general principles governing the making and use of schedules and questionnaires, and to do more than mention briefly some of the many mechanical helps. The details of any of these processes—whether it be the application of statistics, the technique of the case method, the detailed principles of survey making, the use of a typewriter, calculator, or a slide rule, or a detailed study of filing systems—may be found in courses of study and in many specialized volumes to which reference has already been made or will be made.

First Essentials of the Schedule. When objective, measurable data, which permit of standardization, are to be gathered, the schedule is the most efficient device for collecting the material. The importance of a well-constructed schedule cannot be overestimated since a poorly planned one may defeat the very purposes for which it was intended and be more of a hindrance than a help. The strength, as well as the weakness, of the schedule lies in a standardization which limits its use to the collection of certain types of data but which also makes it possible to classify, tabulate, and compare data by means of statistical treatment. The data collected, therefore, must be objective and quantitative, accurate, complete, and concise, easily observable, and amenable to easy and definite interpretation, in order that the enumerator may not find it necessary to exercise his judgment in recording an answer. Data collected by means of a schedule are collected in person—that is, the research specialist may do it himself or he may have special enumerators to do this part of the work for him. Not only must the schedule be well designed and "fool proof," but the enumerators should be careful, well-trained individuals who have received, before starting out, detailed instructions with reference to their work.

The simple schedule facilitates greatly the first steps of research. Investigators sometimes have the mistaken idea that while they are gathering data, it might be wise to get everything that they possibly can, whether it bears directly on this particular piece of research or not, in the event that it might prove useful at a later date. But this merely clutters the schedule, leaves gaps in the replies, may mean failure to get the essentials for the work in hand while securing the extraneous material, while the information goes out of date, and is generally worthless. While limiting the questions to the information actually sought, it is nevertheless imperative that all data germane to the study in hand be collected during the first interview since subsequent trips are not only wasteful of time and energy, but are apt to result in decreased co-operation, not only in this study but in future investigations. There are times when in the judgment of the enumerator it may be better not to press the matter too far during the first visit, but a return visit should be due to causes other than the failure to include in the schedule some essential data. When an informant shows disinclination to answer, the matter should not be carried farther at that time, but the investigator should cease writing and return later. This is another of the many instances when

common sense must be relied upon. An enumerator must have tact and discretion. It is sometimes suggested that the schedule should never be produced during the interview, but here again discretion must be used. If there are but one or two questions to be answered, the schedule need not be produced, but it would be impossible for an enumerator to remember the answers to fifteen or twenty questions and fill in the schedule after the interview had been closed. Information obtained in this way would be anything but accurate and reliable, and the accuracy of schedule data is one of its outstanding characteristics. If the informant is approached courteously and intelligently, as a rule, little difficulty is experienced, and it is surprising how easily and readily the desired information may be obtained under proper conditions.

Making the Schedule Effective. To further simplify the schedule, as well as to secure better cooperation, data which can be secured from other sources should never be included in the questions asked the interviewee. Much material of the kind collected by a schedule can be found in the general sources mentioned in the preceding chapter. Since a schedule gives a cross-section picture of an institution, a community, a nation, at a particular time, other material should be sought and can usually be located elsewhere. A maximum of information should be attempted through a minimum number of questions. The nature of the questions depends partly upon the authority of those seeking the information, but it is a safe rule to limit the questions to those which may be answered without bias or prejudice, to such as minimize the personal equation. The schedule is not an instrument designed to secure reliable qualitative data, unless it can be reduced to quantitative terms, the informal procedure of the case method being better adapted to this type of information. There is no place for elaborate explanations on a schedule, nor is there need for ambiguity. Questions on a schedule should be the kind that can be answered by "yes" or "no," or even in many cases by a check mark. Questions of a similar nature should be grouped together, and the suggestion is frequently made that the most difficult questions should be left until last, for if the informant becomes tired or discouraged in the beginning he is apt to answer the last questions hurriedly and carelessly, or refuse to answer them at all. For the same reason it might also be said that the most important questions should be asked first. However, since only essential questions should be in-

cluded on the schedule, all are important. There should be no unanswered questions on the schedule, for this throws out the final tabulations and computations. The formulation of the questions is important since all answers must be quantitative in order that they may be compared and tabulated. For instance, the effective schedule never asks what the condition of the house was, but whether the house was heated by a hot-air furnace, steam, hot water, stoves, fireplaces, with space to check the one used. Sometimes the tabulation form is planned before the schedule is constructed which avoids some of the pitfalls of faulty questions. Planning the tabulation forms also simplifies the matter of mechanical sorting and tabulation, for a code number can be placed in each column of the schedule when it is constructed. This not only eliminates the additional task of later coding but assures greater accuracy in the final results since it minimizes mistakes likely to occur in coding.

It is advisable to experiment with a trial schedule before having the schedule printed or mimeographed in final form, in order to eliminate the unnecessary expense involved in reprinting several hundred or more schedules. Much has been written about the size, form, material, color, arrangement, spacing, and other mechanical details of the schedule. The purpose of the investigation, the character of the data to be secured, the tabulations, forms, and other matters, determine to a great extent these technicalities. It may be well to emphasize that a schedule, like bibliography or note cards, should be of standard size. They are usually 5" x 8" or 8½" x 11". It is sometimes necessary to use large sheets, but these are cumbersome, even when folded. Whenever possible questions should be printed on only one side of the sheet, although it is better to use both sides of the sheet than two sheets. The reverse side, which should be blank, might be used for explanatory remarks of the enumerators. Whenever two sides are used, the word "over" should be printed at the bottom of each page. Heavy paper or light cardboard is the most satisfactory material; it is durable and yet can be placed easily in a typewriter. If a typewriter is to be used in filling in some of the data, care should be taken to have the printer's ruling correspond with the spaces on the typewriter, in order to facilitate and expedite the matter of typing. When tabulations and comparisons are to be made by sex or race, or groupings on any definite basis, it is often advisable to use distinguishing colors for the different groups. It is always helpful to sum up what certain authorities have considered sa-

lient points in schedule making *Robert E. Chaddock* in his *Principles and Methods of Statistics* (pp 387-391), considers six important points in determining the items or questions to be included in the schedule Accuracy and completeness, simple and definite questions, as few questions as possible, leading questions to be avoided, inquiries to cover just the information desired, care in the form of the schedule In his *Elements of Statistical Method* (pp 50-60) *Wilfred I. King* says that the questions chosen should be comparatively few in number, require an answer of a number or yes or no, simple enough to be readily understood, such as will be answered without bias, not unnecessarily inquisitorial, as far as possible corroboratory, such as directly and unmistakably cover the points of information desired *Horace Secrist* in his *Introduction to Statistical Methods* (pp 53-56) gives eight elementary principles for schedule making Purpose of the inquiry to be definitely understood and stated, a stamped envelope enclosed for return, schedule to be brief with pertinent questions only, units of measurement carefully defined, rulings and columnar arrangement should be simple and definite, questions as far as possible to be corroboratory, the informant should not be burdened with calculations, questions should be simple and unmistakable as to meaning and arrangement *Edmund deS. Brunner* maintains that "Certain principles govern the preparation of a schedule, no matter for what kind of a survey it is intended" In his *Surveying Your Community* (pp 19-23) he emphasizes ten points Care and skill in phrasing the questions, questions should be designed to secure the basic data of the survey, the possibility of misinterpretation should be minimized, as many questions as needful to be used, simplicity and precision are of the utmost importance, the standards of evaluation used should be definite, leading questions to be avoided, the advantages of the "slantwise" question, the importance of studying schedule making, an unwieldy schedule should be avoided In their *Statistics* (pp 8-16) *W. B. Bailey* and *John Cummings* lay down six general principles which should govern the preparation of the blanks or schedules Comparable information should be secured whenever possible, clear and intelligent questions, only facts pertinent to the study should be secured, questions should not antagonize, the form of the schedule should be planned carefully, mode of checking or answering should be stated clearly *F. Stuart Chapin* summarizes in *Field Work and Social Research* (pp 186-191) some principles that should guide in the selection of the inquiries to be printed on the schedule as follows Inquiries should be comparatively few in number, require an answer of a number or "yes" or "no", the recording of observations of qualitative facts should be in quantitative or other objective terms, inquiries should be simple

enough to be readily understood, such as may be answered without bias, not unnecessarily inquisitorial, as far as possible corroboratory, answers suggested as alternatives, the correct one to be checked, inquiries such as directly and unmistakably cover the point of information desired

The Questionnaire. What has been said about the schedule applies largely to the less formal questionnaire. Both are used to collect data from large and widely distributed groups of people. The questionnaire, however, is generally distributed through the mail "or otherwise placed in the hands of" the informant to be answered by him without any further assistance or supervision, and then returned to the sender in the same way, whereas the schedule is filled out by an enumerator. By means of the questionnaire a much more widely scattered group may be reached than with the schedule, and it also involves less expense. Sometimes the two are used together successfully in the same investigation, the questionnaire serving the purpose of a preliminary study of wide scope with the schedule used for a more intensive follow-up study of selected areas. The percentage of returns on questionnaires sent through the mail varies depending upon the nature and length of the questionnaire, the group to whom it is sent, the authority vested in the sender (the government makes frequent use of questionnaires), and the number of follow-up requests sent. Advertising houses estimate a return of only five to ten per cent, and the research student who gets a twenty per cent return on his first appeal may consider himself fortunate. Therefore, if a hundred returns are desired, at least five hundred questionnaires must be sent, while it would not be necessary for enumerators to fill out five hundred schedules to get one hundred usable ones. Although details with regard to size, form, questions, already cited for the schedule, hold equally for the questionnaire, the more personal nature of the latter and the method of distribution, make care in its preparation and use of the utmost importance.

To get information at a distance, the fewer the questions the better. It is only the exceptional person who will sit down and fill in a ten-page questionnaire whereas most persons have time or will take time to answer five or six brief, simple, definite questions. There is always less accuracy in questionnaire returns than in those collected by means of a schedule, and inaccuracy increases in proportion to the number and character of the ques-

tions Questions should not be subjective or "inquisitive" If such questions are answered, the replies are apt to be rationalizations Questionnaire answers are not a valid index to attitudes The value of the "Life History" questionnaire can be challenged on the ground of its subjectivity as discussed in an earlier chapter on the case method The absence of names or other marks of identification on the questionnaire may modify this weakness A statement that all information will be considered confidential will hardly have this effect, if the questionnaire carries the name of the informant Each question should be separate, it is advisable never to have two parts to a question For instance, the question "When and where were you born?" should be divided into two questions—"When were you born?" and "Where were you born?" It is also helpful to number the questions Whenever possible, limit the questionnaire to one page, leaving the reverse side blank for additional comments. It is often suggested that for a longer questionnaire, both sides of the sheet be used rather than two sheets since there is danger of the second sheet getting lost Using both sides of the sheet, however, is awkward in tabulating, and if sheets are numbered and fastened together securely with brads, there is little danger of their getting lost Of course, it is possible that the psychological effect on the informant might be more favorable if he were presented with one sheet rather than two, even though the one sheet had questions on both sides Since one is asking a favor of the informant, he should always be approached with courtesy and consideration A letter of explanation, often addressed to the informant personally, should be attached to the questionnaire Although this may be a form letter, it should be made to appear as personal as possible. Sometimes, when only two or three short questions are asked, the questionnaire is made part of the letter A stamped, self-addressed envelope should always be enclosed for the return questionnaire This is not only a time saver for the informant, but it precludes the possibility of his having to bear any part of the expense involved The material should be carefully weighed before mailing to insure sufficient postage not only on the outgoing letter but also on the return envelope If a letter accompanies the blank form, the rates and rules for first class mail are observed. If, however, the blank form only is sent, the rates for printed matter apply When questionnaires are sent out individually, one would naturally attach the explanatory letter and send it first class But if, for example, a number of questionnaires were sent to an individual who was asked to distribute them further, it would be better economy to send the letter separately and then mail the package of questionnaires at third class or parcel post rates Filled-in questionnaires,

whether the answers are written or typed, are subject to first class rates. It is important, therefore, that the sender include sufficient postage on the return envelope. Since questionnaires are usually sent through the mail, paper of good quality but not too heavy, is preferable to even a light cardboard. Folding or bending will not injure the paper whereas it might seriously damage a cardboard form. Then, too, the question of weight must be given consideration. *W V Bingham* and *Max Freyd* discuss the characteristics of a good questionnaire in their *Procedure in Employment Psychology*. "An ideal questionnaire," they say (p 145) "gets the special information the investigator wants, and nothing else." Its form depends on the nature of the information and the source from which it is sought, questions are concise and without ambiguity, it is convenient to fill out and to score, printed instructions should accompany the questionnaire and also the assurance that its information will be regarded as confidential. *F Stuart Chapin*, in his *Field Work and Social Research* (pp 186-191), sums up in six points the form and types of questions which are most desirable. The questionnaire should have an air of the personal wherever possible, the name and address of the correspondent should be at the beginning. The questions should be made of interest to the informant, should be as few as possible, analyzed carefully beforehand, and arranged in the order of their importance. The limitations of the questionnaire are well expressed by *H E Perry* in "The Questionnaire Method," published in the *Journal of Applied Sociology* (X, 155-158). He would limit its use largely to the gathering of objective material since such data lend themselves to classification and are valuable for comparative purposes. But the questionnaire method is inaccurate when the attempt is made to use it to reveal attitudes. Uncertainties as to the meaning of questions are also apt to arise, and there is likewise the temptation to answer the questions for the "resulting effect." The brief concise answers valuable for tabulation do not disclose attitudes, and questions asked directly often arouse "antagonism and inhibitions." *Manuel C Elmer* in "Standardizing Social Research Methods" (*Social Forces*, IV, 303) characterizes the questionnaire as "the high sounding travesty of scientific research." He maintains that "the questionnaire has certain real uses for which it is occasionally employed. There are however many uses for which it is of no value, but for which it is very frequently used: The questionnaire may have some value as a 'straw ballot,' for showing a possible tendency, but is of practically no value for a scientific study . . . The use of the questionnaire for studying social processes and attitudes is very inadequate because it is almost impossible to get a true random sample."

Statistical Helps. All data collected by means of schedules, and much of that collected by questionnaires, are submitted to statistical treatment. The growing use of statistics as a standardized, objective, quantitative measure applicable to all methods in the social sciences makes it imperative that the research specialist of today have not only a working knowledge of statistical methods, but some acquaintance with the technical helps in this field. It is not likely that he will have an intimate working knowledge of all of them, but he should at least know what equipment is available. Adding and calculating machines should be familiar to every research student. He should know how to use a slide rule, logarithms, and calculating tables. This equipment should be accessible to every research student. These are not merely labor-saving devices, but they also insure greater accuracy and better training. In addition to this minimum of equipment there are more elaborate statistical devices which require trained operators and which are too expensive for the ordinary statistical laboratory where there would not be constant demand for them. These are such machines as the key punch, electric tabulator, and electric sorter, illustrated and described by Chaddock in his *Principles and Methods of Statistics* (pp. 402, 403). The key punch transfers the record according to the code numbers, the tabulator is "used to count the cards or to add similar items from many cards", while the sorter is used "to group similar items in required classes". Since the expense of these machines makes them prohibitive for limited research activities, statistical bureaus have been organized where such work can be done for a reasonable sum, and these should be made use of by the research specialist whenever he is handling a large mass of statistical material. This is a legitimate expenditure in any statistical research, since the returns more than pay for the outlay.

A simple statistical laboratory equipped with an adding machine, or better still with a calculator, and ample table space for constructing charts and graphs should be available to every research student. However, this minimum equipment will serve only where the number of items and cases to be treated statistically is comparatively small. But when thousands of cases with numerous classifications and cross classifications must be handled, such equipment is inadequate. Not only is it unduly time consuming, but it is impossible to attain the requisite accuracy.

in results An illustration is that of a study of court records. With the aid of an adding machine and slide rule it was attempted to analyze superior court records in a particular state for one year Although the work was painstakingly done and carefully checked, rechecking showed many errors in the original computations Since this study continued over a period of five years was basic for many others, it was considered advisable to continue the analysis with the aid of a statistical bureau A code was adopted with reference to the various classifications desired, such as age, sex, race, occupation of the offender, type of crime, disposition of the case, judicial district in which the case was tried. Each case was coded on a separate card and sent to the bureau for punching, sorting, and tabulation By means of the second method far greater accuracy was assured with less consumption of time and no greater outlay of money since clerical assistance was employed for the coding, whereas the first method required the more highly paid services of the research person himself for a longer period of time

The Typewriter. To use a typewriter with some degree of skill and accuracy is an indispensable part of the equipment of every research student In fact the importance of the typewriter can scarcely be overestimated For those who are visually minded, nothing helps thinking as well as looking at the typed or printed page Errors in subject matter as well as in spelling, punctuation, and composition, are frequently overlooked in a poorly written page, but stand forth boldly on the typed page Hand-written copy necessitates a roughly typed copy before the author himself can make adequate corrections Furthermore, it is easier for a typist to copy from an even poorly typed draft than it is from a hand-written copy, unless the writing be exceptionally legible and the copy unusually clean To compose directly on the typewriter may be an art, but it is an accomplishment which once acquired will never be forgotten, and which will never cease to be an asset. Moreover, since hand-written manuscripts are no longer submitted to readers or publishers, every research student should be able to turn out acceptably typed copy, for typists are not always available And even for the advanced researcher or those who have clerical assistance it is inefficient and a waste of time to write copy in longhand and then dictate from copy to a stenographer.

A research specialist spent twenty hours in writing a chapter and then ten hours in copying it on the typewriter, or a total

of thirty hours Had his composition been done on the typewriter, the time spent would doubtless have been not more than fifteen hours. Had he dictated the manuscript to a stenographer from his first rough handwritten copy, about five hours would have been consumed in dictation, or a total of twenty-five hours Had the chapter been dictated directly to a stenographer or an Ediphone, the maximum time required would have been not more than ten hours From five to twenty hours, which might have been devoted to fruitful research, were spent by this research specialist in doing work which any well-trained stenographer could do more satisfactorily and in a shorter time Had no stenographic assistance been available, fifteen hours would have been saved by constant use of the typewriter, and two chapters could have been written in the time required for one, thus doubling the productive capacity of the researcher.

The Ediphone or Dictaphone. The ever-increasing use of the Ediphone is evidence of its value to the mature research specialist with ample resources in time and office help As a time saver it has no equal, since dictation and transcription can be taking place simultaneously Some authors, however, prefer to dictate to a stenographer, although this consumes more time Manuscript dictation and transcription require greater skill than ordinary letter work, and those who have not learned to dictate letters should not attempt to dictate manuscripts Nor can those who have not learned to think clearly and quickly, or have not mastered the rules of composition sufficiently to compose directly on the typewriter, succeed with dictation either to a stenographer or an Ediphone However, the use of an Ediphone is an excellent way to perfect dictation, since it "gives back" exactly what has been said, and brings to light faulty composition Dictation requires clear, careful enunciation, and this is especially true when using an Ediphone. The voice should be maintained at even pitch, not too loud, the mouth close to the mouthpiece, with every word spoken clearly and distinctly Unless this is done, the typist will experience difficulty in transcribing from the cylinder, since mumbled words will be only indistinct sounds, the voice will die away when the mouth is removed from the mouthpiece, and a shrill, harsh noise will accompany the words when the voice becomes too loud It is essential, too, that cylinders be kept in good condition, that they do not become scratched or cracked,

and that they are shaved properly. With care an Ediphone means not only time economy, but also money economy

A successful research professor wrote and published during the past year not less than five books and thirteen articles, in addition to writing a number of book reviews for periodicals and journals, delivering numerous lectures, and teaching courses. He ascribes this quantitative production to constant use of the Ediphone. He has two receiving machines—one in his office and the other in his study at home. It is possible, therefore, to dictate whenever "the spirit moves him." But one typist operator was required to transcribe the cylinders, and she did not devote her entire working day of seven hours to this work but had additional time for letters and work for other investigators. The time consumed was less than if the manuscripts had been dictated to a stenographer or even typed roughly before going to the typist. The expense was also decreased since less of the typist's time was taken and the upkeep of the Ediphone is low if the machines are serviced regularly and cylinders properly handled and shaved carefully.

Duplicating and Reproducing. Carbon copies, mimeographing, multigraphing, photostating, and printing are the most commonly used methods of reproducing and duplicating. No work should be done without taking at least one *carbon copy*, since there is always the possibility of a copy getting lost or destroyed. Mimeographing is the least expensive method of quantity duplicating. After the stencil has been cut, hundreds of copies may be run off with little additional expense. When *mimeographing* is neatly and accurately done it makes clear and acceptable copy, and since the stencil is cut on the typewriter, it closely resembles typing. *Multigraphing*, however, bears an even closer resemblance to typing than does mimeographing, and if the type and the ink on the typewriter ribbon and the type and the ink on the multigraph are carefully matched one can scarcely tell the difference when typewritten inserts are made on a multographed form. To eliminate labor and to insure greater accuracy, *photostating* is used when it is necessary or desirable to reproduce entire pages, photographs, charts, and graphs. *Printing*, of course, is the most expensive method of duplication and should be used only when other methods are not suitable.

When not more than four or five copies are desired, they can be made at one time on the typewriter, using a thin copy paper for the *carbon copies*, and a sixteen or twenty pound paper for the

original Carbon copies on thin paper are difficult to read, but the use of a heavier paper limits the number of copies that can be made at one time and also means a heavier strain on the typewriter Even when making a number of copies on thin paper it is often advisable to use a lighter weight carbon paper A paper such as Fidelity Onion Skin will produce five or six good copies and can be used with equal success for the original The standard or Pica type produces clearer carbon copies than does the Elite or smaller type Illegible carbon copies should not be sent out Rather reproduce the manuscript a second time on the typewriter or, if a number of copies are needed, they should be mimeographed or multigraphed. Letters should not be carboned Either individual letters should be written, or multigraphing used in the case of a form letter In *mimeographing*, care should be taken in cutting the stencil, for although mistakes can be corrected, every corrected mistake means a weakened place in the stencil which may break and blot before the desired number of copies has been secured. *Multigraphing* is a typesetting process and is somewhat more expensive than is mimeographing For schedules, questionnaires, manuscripts, or any lengthy forms, mimeographing is preferable, but multigraphing is more acceptable for form letters, since addresses and salutations can be inserted without the difference being particularly noticeable Library research often necessitates a large amount of copying from books, newspapers, old registers, periodicals, journals, diaries, letters, and other documents Instead of copying by hand or on the typewriter, it is often advisable to have the material *photostated*, especially when entire pages are to be reproduced, since the cost of photostating a page is as cheap as reproducing a column or part of a page When excerpts only are needed, copying, even when one employs a typist, is more economical. When preparing graphic material for photostating use only black or red ink, for other colors do not reproduce Photostating reproduces everything in tones of black and white. Consequently more than one color ink should not be used, but distinctions made by means of solid lines, dots, dashes, and various combinations which can be explained clearly in the legend on the graph Whether the schedule or questionnaire should be *printed* or mimeographed is largely a matter of individual choice. The form of the schedule or the persons to whom the questionnaire is being sent often determine whether it shall be mimeographed or printed, since a printed form sometimes carries more weight than does a mimeographed one. Trial schedules and questionnaires are usually mimeographed, although, if the form is well worked out and will require only one or two minor changes, the printer can be asked to keep the form set up for a short period while it is tried out One obvious advantage of printing

over mimeographing is that it is much neater, and by using small type a much more compact schedule can be produced. Final schedules are usually printed, especially when they are to be used in large quantities. Since setting up the form is the heaviest outlay in printing, it is advisable to have sufficient forms printed at the outset, otherwise one will have to pay to have the article reset when a second printing is required. Forms that have to be ruled in both directions are quite expensive. As was suggested in an earlier section, when ruled forms are to be filled in on the typewriter, have the printed spaces correspond with the typewriter spaces. It is well to test this before the forms are finished by slipping the proof into the typewriter. Spacing, of course, also varies on typewriters according to the size of type used, the spaces with Pica type being larger than with the Elite type.

Filing and Filing Cases. It is not expected that the research student will have extensive knowledge of filing systems and filing equipment, but it is essential that he acquaint himself with a few of the basic principles. In the first place, it is not necessary to invest in expensive filing equipment, although it facilitates work and enables one to do better research if one's material is properly filed and available as it is needed.

It is often satisfactory to use cardboard boxes for bibliography and note cards, making guides of heavy manila paper or light cardboard. But for filing letters, manuscripts, and large sheets of any kind, a standard filing case is required, especially since large boxes piled one on top of the other would not easily be accessible. It does not necessarily follow that cheap equipment is economical. However, expensive cases or new ones are not indispensable. Sometimes good secondhand files can be bought. It is well to select one of the standard makes and "stick" to it. Steel is considered more durable than wood and can be had for practically the same price. In case of fire, heat will often char papers in a steel file, for steel is a conductor of heat, whereas papers in a wooden file will not be destroyed unless the entire file is burned. It is possible, however, that a wood file will be entirely destroyed while with equal heat papers in the top drawer of a steel case may be the only ones charred. The standard sizes for vertical filing are 3"x 5", 4"x 6", 5"x 8", 8½"x 11, 8½"x 13" (legal size), and all material and equipment should conform to these sizes. The use of standard equipment not only decreases the initial expense, but adds to the possibilities of disposing of such equipment later.

Further Helps. All investigators engaged in field work, especially if their work carries them into small towns or the open country, should know how to drive a car. Formerly the Ford driver was in demand, soon it will be the person who can handle a car with a standard gear, although it will in many cases continue to be a Ford. Acquaintance with the use of postal scales and the Postal Guide is helpful. Directories such as the *Educational Directory*, *Who's Who in America*, *American Men of Science*, RUS, the directories of the various social science bodies, directories of the social work organizations, and others, will often assist in making up a list of persons to whom to send questionnaires, or from whom to get specific data not available elsewhere, although other sources will also have to be consulted. Every research student should familiarize himself with the fundamental principles of the most commonly used *filing systems* such as—the alphabetic, the numeric, combined alphabetic and numeric, the geographic, the chronologic, and subject or data files. A discussion of these can be found in any good book on office management.

Direct alphabetic filing or some combination of alphabetic and subject or data filing is usually adopted. Whatever system is used, it should be flexible and amenable to easy and frequent change. In filing alphabetically, it is suggested that there be a rigid adherence to strictly alphabetical order—that is, “aa” is followed by “ab,” then “ac,” while “aab” precedes “aac,” and so on through the entire name. For example, “Brooks” precedes “Brown” while “Brooks” follows “Brooke”; “Brown, Charles” precedes “Brown, John,” and “Brown, Charles E” follows “Brown, Charles A.” which in turn is preceded by “Brown, Charles”. Always file according to the surname. In filing alphabetically according to titles, ignore “a,” “an,” or “the” at the beginning of the title and file according to the next word. For instance, *The Science of Social Relations* is filed according to “science”, *A History of Social Thought* is filed under “history.” All loose sheets should be placed in folders before filing or in special filing pockets or envelopes, properly labeled.

CHAPTER XXIII

TYPES OF PROCEDURE: ANALYZING, INTERPRETING, AND PRESENTING RESULTS

Major tasks of social research include the analysis, organization, interpretation, and presentation of results. Not that these processes can be entirely separated from other types of procedure involved in the collection of data. For the schedule, the interview, the selection of the problem and method of investigation, and other working procedures imply skill and facility in foreseeing the problems of analysis, organization, tabulation, and utilization of data. Nevertheless the mere collection of data or the gathering of materials can in no sense be called research, which includes the whole concept and process from beginning to end. In the processes of analysis, interpretation, and presentation themselves there are two larger aspects involved. The one is the technique through which the research process is initiated, developed, and concluded. The other is the larger problem of final analysis and interpretation of meanings, within a special field and as it is related to other problems and to social research, and as it concerns the broader applications of research to society, its extension and promotion, and its progressive meaning in the growing interrelations of science and society. That is, the *analyzing* of data involves the preliminary processes of planning for their organization, tabulation, checking, rechecking, orienting, and the continuous work involved in developing a research project. But it involves also the important fundamental scientific process of careful analysis and sifting, classification and groupings, objectivity and measurement. The *interpretation* of results implies, of course, the coordinate process of judgment and selection in the task of gathering materials, the testing of sources, the open-minded approach to new materials and changing plans. But it also involves the larger problem of interpreting the meanings of research data, of final conclusions in particular research tasks, and in the larger interpretation of scientific data to society. Likewise, the *presentation* of results has a two-

fold implication The one has to do with the preparation of data for final writing up, for manuscript form, for publication, or for presentation before seminar or class or institute or audience But it also has the larger import involved in the making and developing of research programs, in organization and promotion through learned societies, learned or technical journals, and in other varied ways through which the concept and scope of social research may be broadened and extended The first aspects of these processes of primary concern in individual procedure will now be discussed, leaving the second types, relating to the whole concept and program of social research, to the last chapter

First Steps in Analysis and Interpretation. It is not necessary for all data expected in the final round-up of a research project to be in hand before the first steps of analysis and interpretation begin In fact, the process of analysis and discrimination must necessarily be ever-present in the consciousness and routine of successful research As with other procedure in research technique, these final steps are got under way while data are still in process of collection Even in a statistical study, although the final computations and correlations cannot be completed until the assembling of material has ceased, analysis of data and tentative classifications can be worked out while the data are being gathered And this is especially true of library research where material should be gone over again and again, reclassified and rearranged as new facts are added, so that writing up will be a comparatively simple matter An outline, which develops from what was merely a skeleton when the project was first undertaken to a logical, detailed arrangement of topics, is often the most helpful procedure in the preliminary analysis of data An outline is not imperative nor is it indispensable, since some workers can proceed clearly and logically without it For the inexperienced investigator, however, it is well to begin by making a brief outline of a page or two, reworking and enlarging it as the investigations proceed, so that when the actual organization and writing begin, this analytical outline will furnish the guide or "mechanical framework" for the presentation of results Thus, analysis and interpretation of data proceed simultaneously with the collection of the material, and do not constitute separate steps which come later As soon as the general sources have been consulted and enough reading and preliminary

investigation done to outline the project in a general way and to bring about proper orientation, analysis and interpretation, subject to change in the light of later developments, will follow. It is essential, however, to proceed cautiously, since the discovery of new material may cast an entirely different slant or emphasis upon certain phases or even upon the entire project. In Chapter XXI it was suggested that in the early stages of bibliography making no attempt at selection should be made but that all references be included and if desired, a selection might be made later. This is not meant to infer that a tentative evaluation of material and sources cannot be made even in the early stages of research, but is offered to preclude the possibility of having to search a second time or of overlooking important data, neglect of which might affect seriously the final interpretation and result in the presentation of invalid conclusions.

Analysis and interpretation are the forerunners of clear, concise, logical, and critical presentation. Their method and purpose vary with the character of the problem, with the nature of the data, and with the method pursued. There is always the evaluation of sources and materials, the comparison of findings with those of similar studies already made, and the interpretation of data not only in the light of earlier findings but also in their relation to other facts and factors in the present study. There are tabulations, classifications, and comparisons which may lead to the formulation of hypotheses or result in certain conclusions. In the social sciences, however, most conclusions are relative and should be so stated, because of the heterogeneity, variability, and complexity of the many factors, and the difficulty to control definite factors while varying others. In the eagerness for results, this constant relativity may be overlooked thus resulting in false generalizations instead of possible hypotheses or qualified conclusions. This factor of relativity is especially important in the application of statistics to social data, since correlations may be attempted where partial correlations would be more accurate indices, and where correlations might be carried to such extremes as to be not only invalid but even absurd.

The fundamentals of analysis and interpretation with reference to documentary sources have been worked out carefully by historians and set down in the principles of internal and

external criticism A knowledge of these fundamentals is valuable not only for the student of history but for all research students in the social sciences since all may, at some time or other, deal with documentary sources These principles can be found in any standard work on the historical method as for example, *Introduction to the Study of History* by Ch V Langlois and Ch Seignobos (tr by G G Berry), *The Writing of History* by Fred M Flig, *Historical Evidence* by H B George, *The Historian and Historical Evidence* by Allen Johnson Among other things, the case method requires, in addition to the analysis of documentary evidence, a critical evaluation of testimony especially in its relation to the sources of information, the experimental method presupposes an emphasis upon controlled and variable factors, while the results of the survey are, for the most part, analyzed and interpreted statistically Although the data of a survey are predominantly statistical, the results of all research methods in the social sciences are to some extent amenable to statistical treatment, and consequently every research student should have a knowledge of the basic principles and applications of statistics, already referred to, even as he should be familiar with the fundamentals of documentary criticism and evaluation But whatever method or approach is utilized, preliminary analysis and interpretation, however, continue until the writing up has been completed, the final results recorded, and hypotheses formulated or final conclusions drawn.

Organizing and Writing up Results. With ample material in hand, arranged, classified, and evaluated, more complete organization and writing is begun It is often well not to proceed too rapidly but to assimilate the data, not only by thinking it over, but by conferring with others about it, before rushing in and writing as rapidly as possible On the other hand it is sometimes advisable to "dash" off a first draft immediately, and then after thought and discussion, make careful and painstaking revision To clarify thinking and analysis in order to give definite expression to ideas and facts is the goal to be attained, and that method which best serves this purpose should be followed In no case, however, should material be permitted to get cold or the main current to be sidetracked by too much discussion The research specialist sees his problem from every angle but he also recognizes the major issues and subordinates all other factors to these Llewellyn Jones in his discussion of *How to Criticise Books* (pp xiii–xv), maintains that too much writing is bad because "it is built on a rickety founda-

tion Expository writing is the expression of thought, and unless we have thought a thing out clearly we cannot write about it.

For when you think clearly enough, and arrange your thoughts in order, you have done the most of your writing."

No rules applicable to the development and presentation of the results of all research projects can be laid down, since treatment here, as in analysis and interpretation, depends upon the subject. The presentation should be clear, concise, and logical. Style and composition are important factors in recording the results of a piece of scientific research. There is no valid reason why a scholarly piece of work may not be readable. Although scholarly and dignified in tone, the style should be natural and straight-forward. A ponderous, heavy style is not a necessary adjunct of scientific presentation. However, if literary style interferes with clearness, then, of course, it should be subordinated. The work should be logical and harmonious throughout. Facts are reported and interpreted, the process includes both analysis and synthesis. It is not enough to merely analyze data, it must also be related and coordinated. The general tone of the manuscript should guard against anything that might needlessly arouse controversy or retort. The outline should be so planned as to avoid undue or unnecessary repetition, although some repetition is inevitable no matter how carefully the work has been prearranged. But transitions and references can often be conveyed clearly by indirection. Some authors make the opening paragraph of every chapter a summary of the one preceding, and this sometimes in addition to a final summary paragraph which indicates the scope and trend of the following chapter. This method is more likely to be applicable to elementary and secondary school texts than to scholarly writing for mature minds, and it becomes tiresome. Transitions are essential to smoothness and continuity, and repetitions for emphasis or comparison are useful and acceptable. It is important, too, to distinguish between old and new data, subordinating the old to the new. Nothing is gained by attempting to dress up old material in new clothes. Sometimes a large part of a study is devoted to what has already been done. This is valuable if the purpose of the volume is to bring together a number of isolated accounts and studies, and weave them all into a synthetic whole in order that the reader may acquire a definite picture of an entire field and its present status. But if the purpose is to present the findings of an investigation that has just been made, a brief introductory chapter giving the general background of the subject, and carefully documented so that the reader can enlighten himself further if he so desires, is sufficient. There is no

excuse for "padding." All scientific writing should be as brief and concise as clarity will permit. The choice of words is especially important, since accurate expression is imperative. Hazy and abstract habits are a poor substitute for clear development of the subject step by step, with ample definitions and illustrations. Definition is especially important with reference to technical terms. Well-chosen illustrations, by making abstract statements concrete, add immeasurably to the value of the presentation. Every step in the development of the subject should be evident to the reader, who should be assisted by clearly indicated topics and subdivisions.

The General Form of Presentation. Effective presentation is an essential part of successful research. This is equally true whether the results be given to a research institute, a learned society, a class seminar, or published in a learned journal, a popular periodical, a monograph or brochure, the dissertation for a degree, or in the more ambitious form of text or general volume. Good form and standard procedure should always be followed, but there should be no blind servitude to any particular procedure or traditional form. Since inventiveness and resourcefulness are keys to the promise of the new social research they should be allowed fair play in the form and technique of organizing and presenting scientific results. The protestation that a piece of work is, in form, scientific, has little validity unless accompanied by the substance and fact of sound research. Not all the embattled footnotes of the period may make scientific what is unscientific in body and method. Extended bibliographies and technical verbiage are no substitutes for plain presentation of facts well organized and of conclusions well stated. Conformity to procedure recommended simply because it is old may well detract from the scientific presentation of a new type of research rather than enhance it. Equally inimical to the scientific method is the common verdict that, let us say, a dissertation is not acceptable because it has no footnotes or that it is acceptable because of its voluminous references alone. The old index of scholarly work that it must be technical and difficult to read no longer obtains even in good humor. Nor is its companion verdict that nothing can be scientific which is popular necessarily any more valid. There is no substitute for sound work, clear presentation, accurate conclusions, honest reference, nor is there excuse for careless organization, ineffective presentation, artificial

putting together If statistical tables and charts and graphs are essential they should be included, if not, no array will serve to make scientific and adequate that which is pell-mell and superficial In current times the problem of presentation is a most varied one because of the demand on the part of the public and of publishers for many types of material presented in many ways Whether, therefore, in address or in writing, there is considerable responsibility devolving upon the investigator to present his materials honestly and effectively, marshalling all of the resources and techniques involved in successful research After all it is, once again, a relative matter, depending upon the problem, the audience, the personality, the resources, or the stage of procedure

Looking then to the manuscript, there are, however, a few principles which are generally applicable The choice of a *title*—concise, but descriptive, a key to the contents of the manuscript—is always important Sometimes it is advisable to have a more general title with a longer, descriptive subtitle However, in this instance, if the main title is too generalized, it may be misleading since a subtitle is not always used when referring to a publication A comprehensive title with elimination of the subtitle is often the wiser proceeding The *preface* or foreword gives brief reference to particulars of the research made and acknowledgments to those who have assisted in any way The preface is not part of the study and usually precedes the table of contents, although in some recently published books, the preface follows the table of contents A preface should not be confused with an *introduction* The latter is part of the study, is longer than a preface, not infrequently being Chapter I of the book, and follows the table of contents Ordinarily acknowledgments are not made in an introduction, its purpose being to set forth the general background, the scope and method of the present work, and to call attention to certain salient factors in the presentation which follows Unless the study is of some length it is not advisable to over-balance it with both a preface and an introduction In such a case, Chapter I, although it may contain introductory material, might be assigned a title in conformity with the other chapters rather than be termed "Introduction" If no special acknowledgments are to be made, the preface is sometimes omitted A *table of contents* is essential to every presentation, regardless of length, except an article published in a learned journal or periodical of any kind The table of contents may be merely a list of the chapter headings, properly

paged, or it may consist of the topical headings with the subdivisions. An analytical table of contents usually appears with the subdivisions in the form of a running paragraph, each sub-topic separated by dashes, the page number being given only for the chapter. If a short manuscript is divided into sections rather than into chapters, the heading of each section with the corresponding page number may appear in the table of contents. The *body* of the presentation, consisting of the analysis and interpretation of the data, is divided into chapters, each with its appropriate heading and sub-topics. Both topical divisions and subdivisions are important in a paper of this nature as a guide and aid to the reader. Subdivisions should not be so numerous as to distract the reader but they should occur frequently enough to keep him informed as to the trend of the discussion. *Conclusions* or *summary*, although for special purposes they sometimes appear in the introduction, usually occur in the last chapter or two and may assume whatever form seems best adapted to their presentation. A good general rule is to avoid *appendices* wherever possible. But if an appendix is necessary it should follow immediately after the conclusion, preceding both bibliography and index. An appendix should contain only such matter as is not particularly relevant and therefore would interrupt the continuity of the text were it placed in the body of the manuscript, or matter which is too lengthy for footnotes, such as—the form of the schedule or questionnaire used in collecting the data, the raw material from which calculations were made. Since each appendix represents a homogeneous unit, material of different kinds should not be placed in the same appendix, but each category should constitute a unit and should be designated as Appendix A, Appendix B, and so on, and referred to in this way. The general *bibliography* comes next in order. It will be discussed in detail in a later section of this chapter. The *index* concludes the volume. It is an alphabetic classification of all topics and sub-topics treated in the study with page references for each. It cannot be made until the manuscript has been typed or, if printed, until the book has been paged.

Citations, References, and Footnotes. That credit shall be given to all authorities quoted, paraphrased, summarized, or referred to in any way, is a basic principle not only of sound research but of academic ethics. The student who is guilty of deliberate or careless plagiarism loses the respect and confidence of his fellow students. It is therefore of the utmost importance that the writer be careful to acknowledge not only the sources from which he has drawn his material directly, but authorities that support his posi-

tion or disagree with him, in whole or in part, as far as he is aware of them It should be assumed that readers will be largely those persons who have some knowledge of and interest in the subject, and whose acquaintance with the general field of research is wide Whenever a reader comes across a passage that he recognizes as belonging to another, but for which no reference is given, he is apt to become suspicious and doubtful as to the originality of all of the writer's work, and lose confidence in him as a scholar Not only the writer himself but those who publish must be on guard to detect failure to assign credit For example, a research group in an American university recently published in their bulletin the outline of a lecture on a research method used in the social sciences with the name of the professor who had presented the paper The outline with its subdivisions, as published, bears a striking resemblance to the table of contents of a universally accepted work published originally about thirty years ago In fact, the main headings are practically identical and much of the phraseology is the same as that used by these authorities, yet no acknowledgment is made to the authors nor are they mentioned in any way The method of treatment cited may have become a generally accepted method of procedure, yet this should be mentioned by anyone now making use of it The expiration of copyright may confer the technical privilege of use without securing the permission of the author or publisher, but it does not transfer the intellectual or moral right to use without acknowledging indebtedness to the original source In an instance such as that just cited, there is the possibility that the professor mentioned his source in introducing his subject, and in this case the editors or publishers, not the writer, would be to blame However, an incident of this kind is apt to discredit both writer and publisher

All footnotes and references should be made as concise and as simple as possible Citations—quotations or excerpts—may appear in the body of the text or in a footnote As with a paraphrase or with a summary of another's idea or theory, it is usually better to incorporate the citation in the body of the discussion, unless it interrupts the continuity of thought and idea The reference may be given in the regular text, following the name of the author, it may be placed in parentheses immediately following the citation, or the more general practice of using footnotes may be followed In any case, the reference

should contain only those facts which have not already been included in the text. For example, every complete reference, or its accompanying context, should contain at least the name of the author including surname and given name or initials, the work, chapter, or page. If the work contains more than one volume the number of the volume should be included, if it is an article published in a periodical or a journal, the name of the journal, volume, and page should be noted. It is permissible and sometimes preferred to substitute the date of the issue instead of the volume number. Some authorities advocate, in the case of a book, insertion of the place and date of publication in parentheses, or, if a journal, date of publication as well as volume number, the first time the reference appears. This is not necessary when a bibliography bearing these data is included, either at the end of each chapter or at the end of the study. Publication facts are not particularly helpful unless they are repeated each time, since the reader might experience difficulty in locating the first reference. But, regardless of the substance, form, or location of the reference, nothing that has been included in the text should be repeated in the additional reference. If, for instance, the name of the author is given in connection with the citation, it is not included in the reference, if the work is referred to in the text it is not repeated in the footnote, if the entire reference is incorporated in the discussion, there is no need for further acknowledgment. Lengthy discourses in footnotes are of doubtful effectiveness. A book in which the footnotes provide too large part of the reading matter not only appears poorly balanced but furnishes difficult reading, since the reader's continuity of thought is interrupted by skipping constantly from the text to the footnotes. There are, of course, always exceptional cases in which it is necessary to resort to lengthy footnotes, where the material can not be incorporated properly in the body of the text and where it cannot be consigned to an appendix. But these should be considered exceptions, not the rule. Before adopting a procedure with reference to form and content it is suggested that a standard style book, of which there are many, such as the *Style Manual of the Government Printing Office*, be consulted. This suggestion is made not only with reference to footnotes but for many other points—punctuation, the use of the hyphen, capitalization, and other matters discussed in this and the preceding chapters. But there is one rule that can be followed always, and that is consistency in adopting a form and method and adhering to it. If the place of publication is given with some references, it should be given in all cases. If it is decided to separate the name of the author from his work by means of a comma, a period or a colon should not be substituted in other places. If the volume number of periodical

references is used, it should be used in all references, unless there be exceptions where it is not practical to use the volume number. Usage has found it preferable in most cases to place the name of the author first and follow it with the work cited, and in references, the writer's given name should precede his surname, which is the opposite of the method used in the bibliography. The name of the work or periodical is italicized while the title of an article or a chapter is placed in quotation marks. The usual abbreviations are used. Large Roman numerals designate volume numbers, while small Roman numerals are used to indicate chapter numbers. The word "volume" is frequently omitted in standard references, and in such cases, "p." is also not used. When the place and date of publication are used, they follow immediately after the work, and before the page reference. Superior figures (Arabic numerals) are placed in the text after punctuation marks for references, and the footnote is preceded by the same figure. Sometimes symbols are used, but these are not as acceptable as numbers, since there are fewer of them and they are more cumbersome to use. Symbols—the asterisk or star, dagger, double dagger, and others—are used frequently to designate footnotes in tables. Footnotes should be numbered in sequence throughout the paper if the manuscript is short, and throughout each chapter in longer presentations. When a reference is repeated it is not necessary to reproduce it in full. When a work is cited again with no references to other works intervening, *ibid.* is used. It is sometimes maintained that *ibid.* should be used to refer only to works cited on the same page, but there is no objection to using it to refer to a work on the preceding page provided no other reference intervenes. When other works intervene, *op. cit.* is used to refer to the work already cited and *loc. cit.* if exactly the same place is cited. *Op. cit.* is commonly used to refer to a volume, *loc. cit.*, to an article in a journal or book reference. *Op. cit.* is not used to refer to the name of a journal when a different author or article is quoted. It is suggested that *op. cit.* and *loc. cit.* be used to refer back only two or three pages, for, although not incorrect, it is confusing to the reader if he must turn back some fifteen or twenty pages to locate the reference to which *op. cit.* refers. In such cases, it is better judgment to repeat the entire reference. Since the Latin abbreviations just given are of general usage and acceptance, it is better to be consistent and continue using the Latin form such as *cf.*, *supra*, *infra*, *et seq.*, rather than *compare with*, *above*, *below*, *ff.* Both *ff.* and *et seq.* should be avoided whenever concrete pages are cited, since it is more acceptable to give a definite page reference—pp. 245-278, not p. 245 *ff.* or p. 245 *et seq.* Except when capitalization is necessary use lower case letters. A few general examples of footnotes follow but exceptions, in

which judgment and common sense take the lead, are always in order.

¹ Franklin H. Giddings, *The Scientific Study of Human Society*, p. 95

² *Ibid.*

³ *Ibid.*, pp. 91-93

⁴ Read Bain, "An Attitude on Attitude Research," *American Journal of Sociology*, XXXIII, 940-957

⁵ Cf. Giddings, *op. cit.*, p. 97

⁶ Bain, *loc. cit.*

⁷ *The Social Sciences and Their Interrelations*, ch. 1

⁸ Cf. ch. xxi

The Bibliography. The purposes of a bibliography, as well as its general classifications and arrangements, have already been presented in Chapter XXI. Additional points with special reference to form should be emphasized here. A bibliography may contain a complete list of books and references related to the subject in hand—that is, complete as far as the author has been able to make it so. Or it may cover publications in the field occurring during a certain period. Or it may be a selected list, a partial list, or may be qualified as containing only books. But whatever the scope, it should be designated clearly. When the bibliography is of considerable length, it should be classified into certain divisions, as an aid to the reader. It may be divided into source materials and secondary sources. Further classification may be made on the basis of books, articles, pamphlets, newspapers, government documents. Or it may accord with the main research divisions. Classifications are always difficult and cannot be too rigid, since there is of necessity overlapping. But some scheme of classification is helpful to the reader and student. In an exhaustive bibliography, the plan is sometimes adopted of indicating by means of a symbol what the author considers the most important sources, those next in importance, and those which bear less directly on the subject. This is not so important when the bibliography is selected carefully. Chapter bibliographies may be placed either at the end of the chapter to which they refer, or appended to the study under the proper chapter headings. And of course there is always the opportunity for originality in presenting bibliographical material in order to make it more attractive and more useful.

In bibliography making meticulous care should be had as to details of spelling, punctuation, and arrangement. A bibliography may be arranged chronologically, topically, or alphabet-

ically according to the surname of the author. In an alphabetical arrangement when the name of the author is not known, the title of the book or article takes the place of the author. The alphabetical arrangement is generally the most satisfactory. The author's name should be given in full—that is, the given name as well as the surname. For example, Ogg, Frederick Austin. In most cases it is sufficient to use the initials of the given names as Ogg, F. A., although Ogg, Frederick A. might, in some instances, be better. Where an author has only one given name, this name should be written in full, and not only the initial given. For instance, Marshall, Alfred, not Marshall, A., Wilson, Woodrow, not Wilson, W. It is customary among European authors to use only the initial of the first name, as Tarde, G., Comte, A., Gide, C., but it is better to have a consistent rule and write, Tarde, Gabriel, Comte, Auguste, Gide, Charles. In foreign names, "de" or "von" is not considered part of the surname for bibliographical purposes, but J. W. von Goethe should be listed as Goethe, J. W. von, Vacher de Lapouge as Lapouge, Vacher de. The name of an editor, translator, or reviser should also appear in full. The full title of the work, in italics, follows the name of the author, and this is followed by the place of publication, publisher, date of publication. If there is more than one edition of a work, the edition referred to should be stated. The name of the publisher need not be given in full. If the work is in more than one volume, the number of volumes should also be noted, and in the case of an illustrated work, mention should be made of that fact although it is not necessary to include the name of the illustrator. In the case of articles, the name of the article, enclosed in quotation marks, follows the name of the author. The name of the journal, in italics, follows. The number of the volume, date of issue in parentheses, and page numbers should also be included. When more than one book by the same author is listed, the name of the author need not be repeated. Such a list of books should be arranged either chronologically according to the dates of publication or alphabetically according to their titles. When a number of abbreviations are used, after the bibliography has been completed, a table of abbreviations, which precedes the bibliography, should be compiled. Different schemes of punctuation are used. It is well to select a simple, logical one, and use it consistently. The following guide is merely suggestive.

- Haney, L. H. *History of Economic Thought*. New York: Macmillan, 1922.
 Hayes, E. C. (ed.) *Recent Developments in the Social Sciences*. Philadelphia: Lippincott, 1927.
 Mitchell, W. C. "The Research Fellowships of the Social Science Research Council." *Political Science Quarterly*, XLI, 604-607 (December, 1926).
 Ogburn, W. F., and Goldenweiser, Alexander (eds.) *The Social Sciences and Their Interrelations*. Boston: Houghton, Mifflin, 1927.

- Ogburn, W F, and Groves, E R *American Marriage and Family Relationships*
New York Holt, 1928
- Sorokin, Pitirim *Social Mobility* New York Harper, 1927
Contemporary Sociological Theories New York Harper, 1928
- Sumner, W G, and Keller, A G *The Science of Society* 4 v New Haven
Yale University Press, 1927
- Thomas, W I, and Znaniecki, Florian *The Polish Peasant in Europe and America* 2 v 2d ed New York Knopf, 1927

Preparing the Manuscript. A manuscript may be prepared for various purposes—for thesis, dissertation, an appeal for continuing research, or for publication In any case the better it is done the more acceptable it will be Suppose it is for publication and the unknown writer desires for his manuscript a careful reading with a view to possible publication, he will exert every effort to present his work in good form and will give special attention to details of neatness, composition, references and footnotes, bibliography, spelling, and punctuation Unless the author is well-known, a poorly written or carelessly typed manuscript, despite its content, will often receive scant attention. No reader can afford to spend time over an illegible carbon copy, or one typed in red or purple ink, or crowded on the pages in single space If a paper is being prepared for a special publisher, it is advisable to get the requirements of that house with reference to margins, spacing, footnotes, inserts, and other details, and follow them Publishing houses differ as to details, but a manuscript that conforms to certain general principles is always acceptable If a manuscript is prepared for the doctor's dissertation, then local procedure will be followed If it is prepared as a brief, the special form of outline or summary is of great importance. Here again adaptation is important

Handwritten manuscripts are no longer acceptable Not only can typing be made neater and more legible, but one or more carbon copies can be retained by the author in case the original should be lost The regular letter-size sheet— $8\frac{1}{2}'' \times 11''$ —16 or 20 pound weight is best for the duplicates Original copies should be sent to the publisher or printer Ample margins should be left. If the typed manuscript is to be bound, the margin at the left should be at least one and one-half inches, while margins at the top and bottom (including footnotes) and right should not be less than an inch An inch and a quarter to an inch and a half looks better at the top than does an inch The first page of each chapter should be dropped about three or

three and one-half inches from the top. Pages should be numbered in the upper right-hand corner, about three-quarters of an inch from the top and from the right. Small Roman numerals are used for the preface and table of contents, but Arabic numerals for the rest of the manuscript including the appendices, bibliography, and index. Pages should be numbered consecutively through the preface and the table of contents, beginning again with "1" at the introduction or first chapter and continuing through the index. Each chapter begins on a new page, so also the preface, table of contents, each appendix, the bibliography, and the index. Paragraph indentations should be about an inch, or ten letter spaces on the typewriter, unless some special form of blocked paragraph is desired, in which case there will be no paragraph indentation. The page should not be crowded. Double spacing is used for regular text, except in special cases when it may be expedient to use triple spacing, while single spacing is commonly used for long quotations. A single spaced manuscript is not only trying to the reader, but there is no place for the editor's or proof reader's marks. For quotations exceeding 100 words the single spaced blocked paragraph is effective. Unless the quotation forms a paragraph distinct from the text it should not be indented. If the blocked paragraph contains a citation from a single author, quotation marks are not used, but if the point of view of different writers is given in the same paragraph, quotation marks will be necessary to distinguish them. If the quotation is given in more than one paragraph a double space will set each paragraph off from the other as it does each quotation from the text. It is important to understand standard printers' symbols. This is not only valuable in correcting manuscript or proof, but valuable also in the preparation of copy. For instance, a single underscore indicates italics, a double underscore, small capitals, a triple underscore, large capitals. A waved line added below the others indicates black italics or black capitals, as the case may be. This is important when planning chapter headings, subdivisions, and paragraph captions. Of course, this may be left to the printer, but the author can aid in these details. The appearance of the typed manuscript is improved if three spaces are left between the number of the chapter and the title of the chapter, and three or four spaces before and after sub-headings. The chapter number is usually expressed in large Roman numerals, as CHAPTER I. The use of capital letters for the chapter numbers and chapter headings, small letters for sub-headings, and small letters underscored for paragraph captions, make a typewritten manuscript look well. When small letters are used for headings, the first letter of all words except articles (unless at the beginning of the caption), prepositions, and conjunctions is capitalized.

Making Research Available. All of these practical details of preliminary analysis, interpretation, and presentation, are of the utmost importance in the final preparation of research results for the public or for whatever specialized group may be most appropriate. For whatever purpose or use, a high standard of preparation in form and content is always the minimum requirement. And yet something more than mere form is involved. Here, for instance, is a valuable piece of research dealing with acute problems of the East or of the Western World. A good piece of scientific work has been done. Results are impressive in both quality and quantity. A public of scholars or of students of public policy or even of the popular clientele wants the results. It is, therefore, incumbent upon the producer to so organize and present his researches as to make them effectively available to his public. This is partly the problem of the "humanizing of knowledge" and of the popularizing of science, but it is much more than that. It is a measure of ordinary common sense and of good form. And more than that it is a part of the procedure through which social research may be extended and through which its results may be applied to society. We shall in due time come to a discussion of this in the next chapter.

CHAPTER XXIV

TYPES OF PROCEDURE. SOCIAL ANALYSIS AND THE SOCIAL DENOMINATOR

Social Research and Social Analysis. We have yet to consider two final critical points in this introduction to social research. One is the much neglected factor of social analysis and the other is the dynamic part which research itself may play in the larger interpretation and promotion of modern research programs. These points of emphasis are peculiarly interwoven with the whole fabric of current social research. On the one hand there is the need for quantitative research into more and more specific problems to the end that more and more data may be available for analysis and for the possible discovery of new meanings. On the other, there is the essential demand for this quantitative-qualitative data and their better analysis in order that the key task of synthesis, previously emphasized, may be undertaken. It is recalled that the physical sciences have made progress much in proportion as they concentrated upon the exhaustive analysis of specific data after they had extended their research and experimentation into wider and wider fields and in larger and larger quantities. So long as they held solely to limited speculative hypotheses and theories of one or two or three substances, such as water or fire or land, or even a larger number of supposed elements, they made little progress. Attractive early Greek analogies of cosmic elements as being forces of love and hate, attracting and repelling each other in various combinations, provided plausible theories well supported by interesting and vivid examples, but afforded no scientific validity. Hypotheses of exclusive elements of fire and water and air, while based upon general observation, were too limited in scope and analysis to approximate science. As soon as physical science moved away from merely speculative hypotheses and too limited data, it attained quickly increasing stature, through accurate observation and experimentation into larger and larger bodies of particular facts from which again and again unexpected, as well as expected,

"laws" were discovered. So came an Archimedes, "combining practice and theory, experiment and inference", an Aristotle collecting facts and more facts, but still facts not enough and not sufficiently well verified, a Kepler and a Galileo introducing the beginnings of modern science, in which we "first find the patient and unbiased observation of large numbers of particular facts, leading to the formulation of laws which they had not expected" ¹. So came later hosts of pioneers whose discoveries have transformed the modern world. In much the same way the modern scientific era itself as a mode of civilization, a habit of mind, a synthetic philosophy of action, has been evolving step by step through the technical contributions of science itself. It seems clear, therefore, that the social sciences will find next steps in this wider observation of increasingly larger numbers of concrete phenomena and particular situations, and in a much more thorough analysis, on the one hand, and more complete synthesis of all social research, on the other, than has yet been attained ².

Limitations and Prospects. Our further examination of the fundamental place which analysis, interpretation, and presentation have in the whole concept and process of social research should be considered in the light of all that has gone before in the preceding twenty-three chapters. Not only will the problem be illuminated by the review of the interrelation between the physical and social sciences, but by the examination of the development and interrelations of the social sciences and social research with all of their approaches and methods, their limitations and prospects. This task of social analysis and of quantitative research is especially closely related to the experimental and statistical methods and to the problem of personnel and the "scientific-human" in social research. But particularly we should keep in mind our previous emphasis upon certain limitations which have been all too prevalent, and upon certain positive tendencies and prospects which now seem apparent. Among the most common limitations was the assumption that the mere collection of data, the mere gathering of vast amounts of materials, or the abstracting of literature, without

¹ See Charles A. Beard, *Whither Mankind*, ch. III on "Science" by Bertrand Russell.

² See the *Annual Report* of the Social Science Research Council, Nov., 1928, p. 16, in which the Council is represented as being "interested primarily in encouraging greater diversity and fertility of scientific attack, including more controlled experimentation, upon any clearly defined problem of human behavior."

plan, analysis or interpretation, constitutes social research or social science. Manifestly such procedure conforms to none of the essentials of scientific method as found in observation, experiment, comparison, case study, survey and exploration, or statistical analysis. Another was the tendency to assume, on the one hand, that mere objectivity constitutes scientific method, or on the other, to neglect the essentials of observation, experimentation, classification, analysis, and objective measurement in favor of subjective bias and interpretation. The methodology of the physical sciences manifestly could not be transferred *in toto* to the social sciences and yet a chief limitation has continuously been a failure to utilize and adapt as much of the valid contributions and methods of the physical sciences as was warranted. Here were involved the difficulties of confusing organic relationship with organic analogy, logical interrelations with exclusive cause, or categorical resemblance with complete identity. Here again were penalties of inadequate observation, faulty analysis, and wrong interpretation. These and other penalties and limitations appear applicable to all approaches and methods and have led us to conclude that the two chief problems of social research are those which are involved in the lack of scientific methods in social research and in inadequate initiative and technique for the mastery of the controlling human attitudes and other factors. On the other hand, we have found adequate evidence from reviewing the whole situation to indicate much progress in many respects, a clear recognition of the need for new method, working *with*, but different *from* that of the physical sciences, considerable beginnings in the further study and devising of such method, recognition of the need for quantitative research into a far wider number and reach of particular phenomena, recognition of the need for better correlation and synthesis, and therefore a social theory based upon a realism which arises from actual social situations, and an apparent marked decrease in disciplinary antagonisms once so prevalent.⁸

⁸ For instance, the historian is apparently much more inclined than formerly to consider seriously the discussions of historical method even though they are made by the economist, political scientist, or sociologist. The economist and political scientist appear much more willing to look at contributions made by the sociologist, the psychologist, or the historian. There is less of the ridicule of one subject by representatives of another. There seems to be also a much more open-minded attitude on the part of older scholars toward the elementary efforts of younger students and a more liberal attitude on the part of the physical scientists toward social science.

Social Analysis and the Social Denominator. We have approached these problems and prospects by emphasizing the present situation as being one of great promise with significant, and perhaps epochal, developments well on their way, with a corresponding recognition that there is no one "way" or fixed method of doing social research. The terminology used has been approximate and interpretative rather than final and is based upon the premise that inventiveness and initiative, in the working out of methods and definite techniques, should constitute major characteristics of the present era.⁴ We have therefore pointed out the significance of a really "scientific human" method, developed from and in synthesis with combined methods and well supported by adequate and well-trained personnel and by facility and resources in effective research procedures. But even so, there remains the corollary of the need for still more fundamental analysis of social phenomena and a broader interpretation and presentation of the whole concept and process of social research than has yet been effected. At the heart of this corollary lies the essential task of discovering and classifying social units and social constants, and of isolating and characterizing them in such a way that they may be grouped and treated in scientific categories adequate for the social sciences. The task of analyzing and grouping data into like and unlike is no less important for social research than for research in the physical sciences. The hypothesis of this chapter, therefore, is that this corollary involves, as part and parcel of the scientific human method, a successful procedure through which social phenomena may be studied in such quantitative and particularistic fashion and so analyzed and interpreted as to reduce them to a *social denominator* or to social constants, as a basis for really

⁴ This emphasis upon the "approximate" and "interpretative" nature of certain terms utilized in the volume is important. It is urged that many of these terms, obviously not exact in their applications, are not merely theoretical and analogical concepts, but rather *hypothetical settings* used frankly and literally to "introduce" the subject or to "state the problem." It is urged, too, that their treatment is subject to critical and detailed analysis which is of the essence of the task in hand. The terms include such characterizations as *scientific-human*, *social analysis*, *social prepotency*, *social potential*, *social constant*, *the social denominator*, *social relativity*, *experimental observation*, *social synthesis*, *social incidence*, *folk-backgrounds*, *common sense technique*, *problem*, e.g., as a unit of attack and as a situation; and the various "approaches" and "methods," as well as the interrelated uses of *method* and *approach*.

scientific conclusions and synthesis⁵ That is, at best social phenomena do not admit of simple addition, as a rule their complexity has baffled any dependable "addition." Therefore summation and integration must be facilitated by further analysis into workable denominators Such social denominators will apply, not only to the social data of concrete research but to the social objectives and telic implications of social research planning and promotion as integral parts of the whole problem From the viewpoint of this hypothesis it appears that nothing has penalized the social studies and social research in the past more than this deficiency in such procedure, and that nothing will contribute more effectively to their success in the future than a capacity to find, for all social phenomena and all social problems, the social denominator or the constant social elements that, together with other relational factors, go to make up social evolution and social progress

Manifestly this corollary of seeking constant social factors and of finding the social denominator is of such comprehensive importance to social analysis and so universally applicable to social research that its illustration and application may be effected from many angles and from many sources Perhaps it matters little where we begin or where we end The point of emphasis is to state the case and the danger will probably lie in over-illustration, in too much abstraction, or in relying too much upon approximate illustration or analogical example And after all, it may be well to remind ourselves, here as elsewhere, that the most we can do is to state the problem, give types of general illustrations, call attention to negative aspects of conventional procedure, and indicate something of the field, need, and methods of further exploration here If a prevailing interpretation of science be that of measuring the relationship of one constant to another and their respective relationships to variables, *social science* ought then to succeed in measuring certain constant social factors in relation to other constant social factors and in relation to many variable social phenomena Such a task is an essential forerunner of the experimental method in social study as well as of social synthesis To what extent have the social sciences succeeded in this task? To

⁵ The nature of the social denominator, of course, will vary according to the nature of the problem involved and the standards of value developed. That is, it may be in terms of the modal characteristics or objectives, such as the cultural, the geographic, the institutional, the biological factors, or general human behavior or "social prepotency" as discussed later

what extent are they tending toward such a process in their recent programs of social research? To what extent do the techniques of the social sciences make possible such social analysis as will discover the constant factors and make available coordinate units for final interpretation and presentation? These and other queries may be examined at any length desired in the light of the past development of the social sciences, by various illustrations and examples, by testing them out with certain typical problems of modern social research, and by applying them to the purposive objectives of social research programs and processes. Tests may include classical examples, simple illustrations from hypotheses or as found in actual concrete research projects, or approximate illustrations and analogies from physical science, business, or social work. Or they may extend through the whole historical approach, the several disciplines with their specialisms and antagonisms, the several methods as typified by the historical, statistical, experimental, survey, case, or to the whole complex problem of personnel.

Simple Illustrations. Underlying this presentation of social analysis and interpretation must be the recognition of more than mere illustrative and analogical validity in the comparisons between certain phases of the physical and social sciences, between classical economic, political, historical, or social studies and modern problems, and between other general approximate similarities and exact illustrations. We have cautioned against putting final dependence upon any analogical approach but we have also emphasized the more than mere analogy in the organic interrelationships between the physical bases of life and mental and social behavior. The discovery and analysis of these meanings and applications will constitute one of the tasks of social analysis. Likewise since one of the deficiencies of social research in the past has been the neglect of social analysis and therefore a paucity of examples, it is inevitable that illustrations must often be approximate and analogical, on the one hand, or abounding in negative examples, on the other. For the social scientist has been wont to jumble his methods and to compare unlike things although he would condemn the physical scientist for the same procedure. It has, of course, been a matter of axiomatic common sense in arithmetical processes that one does not attempt to add fractions without first reducing them to a common denominator. The most elemental of illustration has been that apples and oranges are not added to secure totals.

in a single category. The physicist or engineer does not attempt to appraise steam and water and gas and electricity until he has reduced his phenomena to some sort of a power denominator. And yet fractions are added, row on row. Apples and oranges are totalled in effective terms of money value, wealth-producing power, diversification of industry and interest, health-giving qualities. Water and electricity have been reduced to such power denominator as to constitute a super-power organism affecting the whole mode of civilization. These accomplishments have been brought about through accurate analysis and right methods. Wrong procedure in these and all other elementary processes manifestly would result not only in both paucity of inventions and their adaptation to economic and social development, but also to wrong and harmful contributions as well. To question the validity of the common denominator in fractions or of qualitative and quantitative analysis in physical research and experimentation would appear too naive to merit serious consideration. And yet it is much more than analogy to emphasize the equal importance of the *social denominator* in cumulative social judgments and of "a greater diversity and fertility of scientific attack" in social research in general.

The fallacy of forming fundamental judgments upon superficial variables or of attempting synthetic conclusions based upon unlike units assumed to be like is perhaps the most common defect of the old comparative method of social study. Primitive folk were "immoral" even though the conduct upon which the visiting observer based his judgment conformed to the best of tribal law, custom, *mores*. The primitive worshipper was "lost," unregenerate, sinful, and low, no matter how meticulously he may have conformed to all the rites of his worship or how strong his allegiance to his religious light. The "ignorant" country cousins roll over on the fresh plowed soil in glee in contemplation of the ridiculous lack of common knowledge on the part of the city visitors. The "emancipated" southerner is one who agrees wholly with the viewpoints and feelings of his northern critic while the "liberal" northerner is one who approves of all the prideful heritage and limitations of the southern folk. The anthropologists have perhaps done more than any others to illustrate, through cultural analysis, the fallacies of this sort of superficial social judgments. And yet there is still excellent example of such limitations and dangers here. *Paul Radin*, pointing out the optimistic note in the present-day ethnological approach, gives as evidence the "nonchalance with which an

ethnologist embarks on the task of describing, single handed, the language, mythology, religion, material culture, art, music, and social organization of a people whose language he very rarely can speak and whose mode of thought and life is far more remote from his own than is that of an Illinois farmer from the mode of life and thought of a Hindoo”⁶

Folk-background Studies. Perhaps the illustrations of old judgments of primitive society provide as good examples of poor analysis as any other, just as the newer anthropological approaches afford excellent examples of successful cultural analysis. A common fault of the old method was its process of utilizing in attempted syntheses unrelated data from all corners of the world, regardless of culture and folk-backgrounds. Another fault was found in the assumption that contemporary social phenomena are not valid evidence for scientific study.⁷ The tendency, nevertheless, was to draw heavily upon the data of primitive society for the explanation of current social situations, but with very little attempt at analysis. It seems apparent that the study of primitive and backward peoples, however, does afford an excellent opportunity for demonstrating both the need and the practicability of scientific analysis. Such a beginning is being made in many *folk-background* studies. These studies may be used to illustrate again the possibilities of the regional approach. Floyd N. House, commenting upon the regional development of the folk-background concept, interprets the North Carolina studies as “related primarily to a comparative and anthropological, rather than a historical, research precedent.” What the use of the *term* in reference to the scheme of intensive and objective studies of types of culture seems to suggest, however, is an extension and refinement of the concept implied in familiar but relatively uncritical allusions to ‘historic backgrounds’.” Further, the idea advanced is “that it is necessary to have a systematic knowledge of the cultural *background* on which the social drama is played in any given society, before the more general concepts and hypotheses of social theory can be adequately applied or tested in their application to that society. This idea is a suggestive one, to say the least, and

⁶ *Primitive Man as Philosopher*, Introduction. See for a discussion of the “cultural approach Chapter X dealing with the “Anthropological Approach” and Chapter XVII on the “Experimental Method”

⁷ Cf. Sumner and Keller’s *Science of Society*

if valid, it ought apparently to have the same applicability in the task of theoretic research with materials separated in historic time, that it has in the study of coexistent but culturally heterogeneous social situations. The essential problem in either case is that of detecting and if possible measuring uniformities in the presence of differences. It is possible that professional historians and sociologists, economists, and political scientists may be able to cooperate in the future more effectively than they have done in the past, by the light of this distinction between the study of background and the study of universal forces and processes.”⁸

An excellent example of the value of careful research into concrete problems which may be found in the regional folk-backgrounds may be observed in *Milton Metfessel's* studies of phonophotography in folk-music. While the field work was done in connection with the regional studies at the University of North Carolina, the computation and conclusions were worked out with great detail at the Iowa State University Psychological Laboratory under the direction of *Dean Carl Seashore*, pioneer in this mode of studying musical qualities. By exhaustive analysis much light has been thrown on the mooted question of the qualities of folk-music, and especially of the Negro. In substance the conclusion reached was that discussions of folk-music have often been based upon entirely different bases, and before comparison can be made between folk-music and the music of modern cultural peoples, there must be analysis sufficient to find the common unit of comparison. “Phonophotography, by laying the foundation for definition of what music is, by defining the terms used in music, by substituting objective experiments for opinions, and by the utilization of graphic and statistical methods, will assist in removing the uncertainties and prejudices that have pervaded the study of folk-music.” And again, “Phonophotography lifts folk-music out of the subjective and intangible into an objective, measurable physical reality. Many of the involved problems of folk-music are now possible of solution.”^{8a} A similar example of analysis and comparison may be made from studies of folk-beliefs. An analysis of the folk-beliefs of the southern Negro made by *N. N. Pucket*, of the white folk of the Carolina Sandhills by *Paul and Elizabeth Lay Green*, and a study being made of the marginal beliefs of the Pennsylvania German by *Stuart A. Rice* and *James H. S. Bossard*, give

⁸ *The Range of Social Theory*, ch. xxxv.

^{8a} *Phonophotography in Folk Music*, p. 178. Something of the range of this analysis may be seen from the fact that more than 60,000 computations were made and more than sixty factors analyzed in vibrato and musical photograms alone.

excellent evidence to indicate fallacies of ascribing sweeping qualities to the Negro or other groups⁹

Social Prepotency. In addition to the value of folk-background studies for general analysis and comparison, and for interpretative illustration, they may also serve other important scientific purposes. They may contribute data and methodology in the fields lying between conventional anthropology and sociology, to use a phrase of Clark Wissler. Thus, also, Professor Seashore believes that the results of the studies in phonophotography in folk-music will be epochal in that they will set the pace for measurement of all music. Whether this be true or not they have provided new materials and new methods for ultimate new discoveries and studies in many similar fields. In the same way we might posit an hypothesis that ample analyses of folk-backgrounds will help to discover certain social constants and factors involved in what we may call *social prepotency* or persistency and continuity in the power of transmitting biological and cultural qualities from one generation to another. That is, we wish to know not only what society is and has been, what it does and what it has done, but also what it is capable of doing. We need to know what its control of evolution and development may be in the total time, space, and relational situations available to it in the future, as well as what its current capacity is for knowing how to bring about the maximum of its conditional and relational possibilities. Objective analyses and measurements of this social prepotency must of course be conditioned by standards of value specifically applied or yet to be devised. But the fact remains that analyses are needed which will direct social science toward the measurement of that prepotency which will enable society to reproduce itself in each succeeding generation with more and more of the "normal," "strong," and "good," and less and less of the "abnormal," "weak," and "bad," utilizing, of course, scientific analyses of these terms themselves¹⁰. In the

⁹ N N Pucket, *Folk-Beliefs of the Southern Negro*, the other studies not yet published

¹⁰ There is, of course, no objection to any sort of criticism of the term social prepotency or the substitution of a term which will describe what, if not social prepotency, the desirable social quality or constants may be. Prepotency implies not only the power of transmitting qualities and characteristics but also the capacity to transmit them better than some other power or facility or habit. The implication is that there is needed far more scientific and quantitative analyses of social phenomena than have yet been made if this power is to be measured and directed.

search for such analyses this hypothesis is that the study of folk-backgrounds and the measurement of "folk values" will constitute an important stage from which may come discovery of both fact and method.¹¹

Something more than the usual comparative method of study is involved. It is as if social research sought to analyze the various hypotheses of cyclic development of civilization to find out what scientific validity such theories may hold. Do the cyclic orders of Plato or Shaw or Spengler represent conclusions based upon adequate analysis? Is there always to be rise and fall and ebb and flow? Is there even a cycle in cultural epochs, such as has been suggested by Kroeber and others? Must the biological "pull" toward mediocrity always follow the development of superior types in individuals? What is the validity of the popular judgment that it takes three generations to make a "gentleman" and only three more to unmake him? Is there after all any social prepotency which will transmit characters and qualities continuously? Is the expression of quantitative characters, as well as qualitative ones, so greatly influenced by environment that the problem becomes one of measuring the combined time, space, and relational constants, if such there be? After all, is the evidence upon which the cycle theories are based largely drawn in each case from instances where the problem has been one of adaptation to a greatly changing and changed environment? Is the drift back to mediocrity in the case of line developed biological types due to a let down in environmental pressures which developed them? Is there in the folk backgrounds, both those which show relatively long periods of moderately changing environment and those reflecting sudden and great changes, evidence to study such problems effectively? Is the folk-life and epoch in the development of society analogous to the biological backgrounds upon which human longevity and achievement are being developed in the individual? It has not been long since it was being freely predicted that the modern

¹¹ We may anticipate here a subsequent emphasis upon the meaning of social research as applying to the discovery of methods for its extension to human affairs as well as the discovery of facts, just as we have already emphasized often the importance of research devising new methods for discovering facts, as well as facts themselves. C. Judson Herrick in his discussion of "The Spiritual Life" in *The Journal of Religion* for October, 1928, reminds us that "We know now how to go about it to breed new races of men, and it can be done any time enough of us want to." It is equally certain that society has available ample facts for doing better than it does in many other ways, what is not so certain is whether it has attempted thorough analysis and synthesis of these facts in such way as to reach scientific conclusions and to make them convincing.

rush of civilization would soon cut down the span of man's life through so much of the artificial pressures and processes, as a matter of fact it is now estimated that ten years have been added to the average life span within the past few years and the span is still increasing Medicine and biology, through animal experimentation and through physiological research, and utilizing knowledge of "natural" laws and processes, have been able to follow the "natural" to the degree required and have built upon them effective adaptations Can social research through the understanding of folk backgrounds go back and find certain fundamental essentials and constants upon which it can build as effective adaptations in society as a whole? This does not mean, of course, that it should follow the natural analogies of Rousseau and the older naturalists, or that it should adopt the old fallacies of illogical conclusions The savage, they say, possessed better teeth than the modern civilized man, the savage used no tooth brush, therefore the modern man should discard his dental prophylaxis As a matter of fact, by the study of primitive man the hygienists and physicians, through analysis, have actually learned much that is of great value Likewise the studies of anthropoid apes, to which we have already referred, offer important approaches and comparative data for the discovery of elemental constants The folk-background studies offer at least a rich field as yet unexplored and the fact that the ethnologists have made such valuable beginnings in the general field of culture is indicative of what may be done here

Other Regional Examples. Before illustrating this corollary of analysis with examples that are more "classical," we may indicate a few other problems of social research in the southern region which manifestly offer excellent opportunities for such analysis as will distinguish between causal factors and merely component relationships Again the simple example The high rate of homicide in the South has often been associated with and often ascribed to the two factors of Negro population and hot weather In his study of homicides in South Carolina, analyzed according to years, months, counties, race, and comparative evidence, H C. Bearley finds no appreciable correlation between climate and homicide He does discover other factors such as leisure, abundance of spending money, and drink, which are present during the months of highest rate, among Negroes, such as December and August. So, too, comparative studies of homicide in counties of the "black belt" and of others with few Negroes, of counties with greatly varying rates of homicide but having similar proportions of Negro

population, reveal the evident fallacies of former judgments ¹² Such a study is therefore of importance to the whole study of crime wherever undertaken and its extension gives promise of other important discoveries Other studies of crime ¹³ indicate within many particular groups and distribution-analyses a relative increase in white offenders with a decrease in Negro offenders, all of which is of the utmost significance to the old hypothesis that the Negro is "naturally" "criminal" These beginnings indicate the need for continuing analyses of larger numbers of particular situations which give promise of both concrete discoveries and of excellent method ¹⁴ Still another illustration may be found in the popular hypothesis that the warm and sunny climate of the South and of the far South-West is detrimental, let us say to the more vigorous types of physical effort as measured by athletics or intellectual and creative effort as measured by literature, art, and scientific discovery. The popular verdict seems based upon the simple fact that, let us say, the South has not so far succeeded in these two forms of activity—physical and intellectual Now comes Grantland Rice with evidence to show that climate is exactly the factor that is producing and will produce even more great athletes in football, the Olympic games, golf, tennis, and other sports, to which evidence the South adds considerable increment in its recent golf and football champions ¹⁵ Manifestly, here is a problem for almost pure analysis, yet no more so than the more important hypothesis concerning the South's creative effort—studies of the utmost scientific importance

Illustrations might be multiplied almost indefinitely A recent author sets forth the remarkable dictum that since the Ku Klux Klan began its new work about 1915 and ran steadily for a decade and that lynching in the South decreased markedly during that decade, therefore the Ku Klux Klan was responsible for this

¹² A doctoral dissertation at the University of North Carolina, expected to be published at an early date

¹³ See also *The Chain Gang* by Jesse F Steiner and Roy M Brown, and other North Carolina studies of crime

¹⁴ Excellent materials for analyzing the hypothesis of Negro criminality may be found in Julia Peterkin's *Black April* and *Scarlet Sister Mary*, and in the *Study of Negro Culture on St Helena Island, South Carolina* under the direction of T J Woofter, Jr., to be published shortly

¹⁵ See "Coached by the Sun," *Collier's*, 83, no 3, p 19

great progress¹⁶ An analysis of the situation, including the efforts of the Committee on Interracial Co-operation and others as well as case studies of actual lynchings, indicate the absurdity of such a conclusion.¹⁷ Another very representative problem of analysis may be found in the studies of the relation of diet and home hygiene to creative effort and culture patterns in the South. Such an inquiry must necessarily be one of considerable complexity and must involve several disciplines.¹⁸ It may, however, be so organized as to provide also a considerable amount of controlled elements, if studies be organized around counties and individuals in such way as to provide comparative data and actual experimentation.¹⁹ Another type of analysis which promises to yield much in both data and method is that of the extension and deepening of the methods of surveying the community. Here, let us say, is a city which, one decade or two decades ago, gave promise of affording unsurpassed setting for the best of American life. Economic prosperity, educational facilities, æsthetic surroundings, cultural backgrounds, and dynamic community organization. A decade passes, and there has been marked disintegration in all aspects of its promise. If then a social analysis, by intensive study of this city, and of others with like resources and like disintegration, and of still others with like general resources but with notable development of its promise, can discover controlling factors, then social research will have provided a notable piece of scientific work.²⁰

Classical Examples. The importance of exhaustive analysis and of determining constant elements and their relation to variables is reflected also in many "classical" examples in the social

¹⁶ W. J. Robertson, *The Changing South*

¹⁷ See J. R. Steelman, *Mob Action in the South*, a doctoral dissertation at the University of North Carolina, expected to be published at an early date

¹⁸ Illustrative of the need for a joint attack upon such problems is some experimental work being undertaken in the study of the adequacy of diet among certain industrial and rural workers and particularly its relation to anemia. The studies are made from the Department of Bio-Chemistry at Emory University. It is interesting to note that such a study cannot usually be financed by the department of chemistry, nor by the social sciences, nor by the medical department, because it "does not come within" their field. Refusal of the social sciences to recognize the need for such cooperation from the physical sciences will appear just as limited as their own criticisms of the several social sciences for their departmentalization of effort.

¹⁹ See recent studies of the influence of diet upon the race characteristics of the Japanese and Indians, *Science Service*, January 2, 1929

²⁰ An example of the increasing approach to social analysis of the community will be found in *Middletown, A Study in Contemporary American Culture* by Robert S. and Helen M. Lynd, in which the aim was to study synchronously the "interwoven trends" and "a cross section of the activities of a community today as projected from the background of yesterday."

sciences as well as in the physical. Thus Ricardo's economic law which foresaw the necessity of all societies descending to soil of inferior quality with the consequent indefinite increase of land rent failed to take account of the techniques of improvement in land culture, fertilization, and artificial helps through chemical processes, so that a "constant" factor became variable and upset the whole calculations²¹ In still another respect Ricardo's notable work failed in the measurement of the social constants. He assumed that the economic man was a constant factor. Much of his theory considered man everywhere to be a constant quantity, ignoring variations between the city man and the country man, between the laborer with his environmental patterns and the capitalist, between folk of English culture and experience and those of other countries and cultures²² In much the same way Malthus failed to determine his constant factors, assuming at least two constants that were widely variable. The first of these was similar to the oversight of Ricardo, namely the variation in technical means of increasing the food supply and of decreasing disease, famine, and war. The second was the variable in man and society's control of birth and death rates, their changing attitudes toward population increase²³ and the changing phases of social institutions. Another classical example is that of economic determinism which has been discussed at length in Chapter XII dealing with the Economic Approach. The anthropologists and others, by careful cultural analysis, have pointed out fallacies of pure economic or geographic determinism, in which case the social denominator is the culture element which is studied as a constant in the midst of other variables. This, again, is approximate, but so is the new atom and the new relativity in physical science²⁴

It should not be assumed, however, that the Malthusian and Ricardian laws were altogether invalid or that they do not still apply in the sense of challenging present-day analysis and meas-

²¹ See Eugenio Rignano, "Sociology, Its Methods and Laws," translated by Howard Becker, *American Journal of Sociology*, XXXIV, 429-450.

²² Cf. Alfred Marshall, *Principles of Economics*, 4th ed. pp. 62-63, also G. E. G. Cathin, *The Science and Method of Politics*, p. 214.

²³ Note the discovery of "pituitary twins"—Alpha and Beta—by Dr. Oliver Kamm and the possible effect of Alpha upon childbirth.

²⁴ Cf. W. F. G. Swann, "Physics and Vital Processes," *Science*, XLVIII, 411-419.

urement The revival and revision of the Malthusian law still goes on and reveals current failures to isolate the social factors

. Likewise the converse prediction that the world will be overpopulated within a short time may be subjected to the same critical analysis and need for finding the real social denominator Predictions in the middle of the last century with reference to the Negro population in the United States varied from almost complete extinction to that of overrunning the white population, at least throughout the South Ample statistics of current authenticity were abundant, but the constant factors were ignored or not analyzed in relation to evident variables Current theories of overpopulation by the "inferior" and underpopulation by the "superior" often neglect many constant and variable factors involved in race intermixtures, in possibilities of bio-chemical discoveries, and in the constant human factors involved in survival Thus also a current criticism of modern eugenics, that the elimination of struggle and hardship, will tend to weaken the race and lead to its failure to survive,²⁵ may fail to measure the constant human quality involved in the struggle to survive, which in an era of "ease" and "plenty" may demand even more "hardy" qualities than in one of mere pioneering and hardships These and many other similar problems challenge social research to an almost immeasurably larger effort and keener analysis than has yet been attempted The analysis of further "classical" contributions will itself make a "scientific" step forward²⁶

"Hidden Springs of the Economic Order." In many ways the economists have attempted more thorough analyses of phenomena than the other social scientists Alfred Marshall gives one of the best approximate illustrations that has appeared of what we call the social denominator in his "hidden springs of the economic order of the world," as opposed to mere contemporary variables. That is, if the economist wants to find guidance from the past for the present, or from the present for the future, he must needs reduce his phenomena to such social denominator as may be found in some constant forces or processes "If the economic historian aims . . . at obtaining light from the past for guidance in the present, he should avail himself of every resource that may help

²⁵ Cf Franz Boas, *Anthropology and Modern Life*

²⁶ The most notable contribution of this sort will be found in the analyses of the *Case Book on Scientific Method in the Social Sciences*, which is being prepared for the Social Science Research Council by some half hundred collaborators, under the direction of Stuart A. Rice

him to detect real differences that are disguised by a similarity of name of outward appearance, and real similarities that are obscured by a superficial difference”²⁷ He borrows an example from naval affairs in which more attention will be given to *strategy*, which is the constant and fundamental, as opposed to the *tactics*, which include the incidents, details, and environment of a particular combat of that time. The naval commander is interested, not in local variables, but in fundamentals which will win a battle whether with the aeroplane or battleship or poison gas or whatever may be the varying “problem” of strategy. This illustrates also the task of social research in its effort to determine what social denominators to work upon in order to determine the social prepotency which will include the social strategy of modern social guidance.

Marshall continues “It is only recently . . . that prominence has been given to that distinction in economics which corresponds to the distinction between strategy and tactics in warfare. Corresponding to tactics are those outward forms and accidents of economic organization which depend upon temporary or local aptitudes, customs, and relations of classes, on the influence of individuals, or on the changing appliances and needs of production. While to strategy corresponds that more fundamental substance of economic organization, which depends mainly on such wants and activities, such preferences and aversions as are found in man everywhere, they are not indeed always the same in form, nor even quite the same in substance, but yet they have a sufficient element of permanence and universality to enable them to be brought in some measure under general statements, whereby the experiences of one time and one age may throw light on the difficulties of another”²⁸ This approach to the social denominator in the economic world, it is true, has not been without its fallacies just as the use of the term “the economic man” as a constant has been defective, yet as an hypothesis serves to illustrate the exact meaning of what we are trying to find. *G E G Cailin* records the economic man as so much more than mere fiction or caricature that “philosophers from Hobbes to Helvetius have held up, as the type of rational man, a being who acted towards all life in every respect as the economic man acts in economic affairs”²⁹ And this again approximates an

²⁷ *Principles of Economics*, 8th edition, p 776

²⁸ *Ibid*, p 777

²⁹ *The Science and Methods of Politics*, p 214. See also James Bryce, *Modern Democracies*, pp 10-14 for a discussion of *human nature* as the social constant, also Thomas Jesse Jones, *Essentials of Civilization*, ch. 1, for an estimate of social constants in primitive society. See especially Franklin H Giddings *The Scientific Study of Human Society*, ch. II, for a treatment of “Societal Variables”

illustration of the search for those constants through which social prepotency may be discovered, measured, and directed

General Examples. This discussion is extending already to greater length than seems necessary to state the case for the newer social analysis. It cannot, of course, be developed here, such a task being manifestly the work of years. Nor is it implied that the concept of social analysis is a new one, rather, the long array of efforts, together with their limitations and successes, accentuate the need for better analysis and indicate the probabilities of further extension. In some respects the whole story of all the "approaches" sketched in this volume reflects a continuous effort to find the "hidden springs" of the social order, sometimes even seeking generalizations independent of historical setting and social change, even though the chief mode may have been largely deductive, searching for the single cause or a few multiple ones. Yet there is ample contrast between the old philosophical approach to the solution of the great riddles of the universe through idealism, materialism, realism, or other metaphysical "systems" and the approach of John Dewey or of Bertrand Russell or Charles A. Beard in which there is at least some effort toward analysis of modern reality.³⁰ There is great contrast between the old biological analogies as general, deductive, easy-going explanations of society and the modern biological analysis which underlies the present efforts to explain human behavior.³¹ There is abundant evidence of progress in the contrast between the old sociological "concepts," valuable as many of them were in the effort toward analysis, and the current attempts to analyze social phenomena into, perhaps, certain interacting elements, forms, and mechanisms involved in factors conditioning social phenomena, fundamental behavior tendencies, individuality and personality, habit and custom, groups and collective behavior, and social processes.³²

³⁰ See a new volume, *Characters and Events*, in which the collected essays of John Dewey are presented with some analytic classification, Charles A. Beard, *Whither Mankind*, Daniel S. Robinson, *An Anthology of Recent Philosophy*.

³¹ See C. Judson Herrick, "Behavior and Mechanism," *Social Forces*, September, 1928, "The Spiritual Life," *The Journal of Religion*, October, 1928, H. M. Parshley, *Science and Good Behaviour*, *passim*, William Kay Wallace, *The Scientific World View*. See also Chapters VI, VII, and VIII of the present volume, dealing with the philosophical, analogical, and biological approaches.

³² Cf. Floyd N. House, *The Range of Social Theory*, p. 288.

whether the method and plan presented are workable, whether the personnel is available for doing the job, and whether the task is appropriately concrete and specific, on the one hand, and can be integrated into reasonable procedures and applications, on the other. A part of this task is one of developing and utilizing resources for social research, including personnel, institutions, endowed and coordinating agencies, and financial support, all of which present opportunities now for further analysis. Still another part of the task is that of developing social research programs in such way as to realize the maximum results from both individual and group research and of preparing some sort of clearing house or exchange through which research resources may be increased and waste eliminated so far as possible.³⁹ Manifestly, too, the interpretation of research results and their extension to society should be deeper and more continuous than the range of any individual or decade or generation. There is, therefore, this other task of approach which William F. Ogburn thinks perhaps "a great many people have in mind when they are working not particularly for science, that is the discovery of new knowledge, but when they are working for the spreading of existing knowledge through devices of propaganda, education, sugar-coating, or by such methods as those working for progress and human betterment generally use."⁴⁰ There is no inclination here to confuse these two aspects, it is rather, on the contrary, to emphasize their differences and accordingly to incorporate both in the larger program.⁴¹

³⁹ This does not refer, of course, to general undergraduate training for research or to field work and training in the statistical laboratories where "practice" and "scrimmage" can have no substitute. Nor does it mean that there should not be many different individuals, or even groups, working on the same general problems in the same way, what it does mean is that such work should fit in with some known and definite plan and objectives. The emphasis throughout this volume is such as to eliminate any impression that social research should be "standardized." An illustration of need might be found in the task of proper "routing of" research agents throughout the country and the several regions being investigated. Too many agencies working on the same thing with too many people at the same places at the same time—in time may easily develop into more than a mere detail.

⁴⁰ From a dictated letter relating to types of "approach" in social research and the extension of the social sciences.

⁴¹ A common fallacy has sometimes been the naïve assumption that no one should have anything to do with the planning and promotion of research programs, or of concrete research projects, who himself was not a specialist and technician in research. The paradox is evident when it is recalled that frequently the qualities and application which make the good technician might well preclude any other promo-

Abundance of banter directed at these various aspects of the modern movement toward social research and social guidance commensurate with the sweep and power of the present era will appear beside the point, although sometimes interesting, stimulating, and helpful Committees are not perfect, institutes and agencies experiment a great deal, foundations seek opportunity to promote social research, individuals and groups need financing, and the world in general is not perfect. The social sciences do not have laws "the exactitude of which are comparable to those of physics and chemistry," university presidents are not always scholarly and perfect, a machine age presents many difficulties, standardization is to be deplored, and the good old days are gone. Universities should not accept money from individuals and endowments because it will corrupt their research, and they must not accept appropriations from the people because forsooth the people will hamper learning by their restrictions and direction of its uses. The individual must not be hampered in any way by the co-operative exercise lest he lose his star-eyed capacity for insight, but he must never attempt anything outside his own narrow specialism. Nothing must be done that is not perfect and there is nothing perfect. If this *fallacy of the absolute* or *cult of the perfect*, so diametrically opposed, not only to the nature of evolution and social development, but to the development of all sciences themselves, deserves more than passing interest, it is because of its extension into the fields of scholarship. It matters little whether it is expressed in terms of the criticisms of the social sciences by the physical sciences and humanities, the antagonisms among the social sciences themselves, the raillery of the social scientists directed against the philosophers, the educators and social workers, and *vice versa*, the skepticism of the free lance, the formal technique of the author or artist, it is fundamentally deficient in analysis. To question the integrity of all institutions that accept moneys, to doubt the intellectual virility of all individuals in research, to begrudge the social sciences their experimentation and still more experimentation is to ignore the principle of social survival, development and prepotency everywhere.⁴² The tendency itself will profit by analysis.

The Applications of Social Science. It now remains to call attention briefly to three aspects of the application of social science except his own work. Likewise, there is no known hard and fast rule as to how a theorist like Einstein might qualify as compared with an experimentalist like Michelson.

⁴² See Harold J. Laski, "Foundations and Universities, and Research" in *Harper's Magazine* for August, 1928. But note also a minority group in most of the social disciplines, in the physical sciences, the humanities, in social work, in education, in the professions, and among literary folk.

ence to society as related to this corollary of social analysis. The first needs mere reiteration. It has to do with the increasingly wide extension and high standards of applied or practical research. The time is past when detached types of "pure" social research can be isolated and rated apart from social research as a whole even if it were desirable. This point we have discussed often in connection with the fundamental telic implications of all social science. There is yet, however, a considerable task to be worked out in the development of standards and interrelations, just as there is between the development of individual or personal research and group or cooperative research, which likewise cannot be made separate and disparate entities. The second aspect has been presented in Chapter I and in other places as the distinction between the present scientific era as one of attitude and method as opposed to earlier eras in which the emphasis was upon the science of facts. Manifestly one of the most difficult problems of social research and analysis is to determine the validity of the scientific method in the application of science to society as well as to the discovery of new facts. It is becoming a commonplace that a modern society evolving through epochal scientific discoveries requires scientific methods in the application of those discoveries. But as a problem of research itself little actual work has been done on the analysis of the factors involved and of the present status. In the third aspect, there is a particularly important task of analysis, interpretation, and presentation of social research to be done. It involves the avenues through which the results of social research are to be effectively utilized for human welfare and for social development. Chief among these are social work and psychiatry, government and public welfare, medicine and public health, jurisprudence and social legislation, engineering and social planning, business and industrial relations, and the general field of education. In each of these, adequate research may effect such analysis and interpretation as will clear up much confusion between those who do research and those who work in the applied fields, raise standards and make actual factual contributions to each group; and go far toward paving the way for exhaustive research into the measurement and application of social values. These are tasks, manifestly not for this volume, but for a work extending over a long period of intensive and extensive research.

CHAPTER XXV

TYPES OF PROCEDURE. A REPRESENTATIVE BIBLIOGRAPHY

In Chapters XXI and XXIII the bibliography, as the heart of fundamental procedures in research, was discussed from the viewpoint of its use, its make-up, and its preparation for publication. In each case the objective sought was effectiveness in the greatest possible number of measures knowing how to use bibliographies already prepared, selecting titles and making up a good bibliography for a particular study, preparing a bibliography satisfactorily for publication, for others to utilize. The character and effectiveness of the bibliography, again, will necessarily be conditioned and measured by the character and purpose of the research in view, the utilization of its results, and the practical, working limitations of the research problem involved. A chief measure of its effectiveness will always be found in the success with which the bibliography may be delimited through representative selection and useful classification. On the one hand, the "exhaustive" bibliography, except in instances where a part of its merit lies in its completeness, may have defects. It may not be exhaustive, it may give the impression of forced erudition, it may be so comprehensive and inclusive as to detract from its usefulness. On the other hand, the too limited bibliography is defective: It may permit of entirely inadequate work in its preparation, it may limit readings below a reasonable measure of thoroughness; and it may not be representative. In a volume like *An Introduction to Social Research* the task is particularly difficult and important. Difficult because manifestly any comprehensive bibliography of literature on social research and scientific concepts would make a large volume, and selection is doubly difficult, important because of a certain illustrative value which should inhere in it. And what is true of the bibliography is true in general of the form and use of footnotes. They should be representative, useful, and illustrative, and no more.

Basis of Classification and Selection. The present bibliography has been classified into four main divisions in accordance with the four chief emphases of the book, with each division again subdivided for books and for periodicals, reprints, and pamphlets Part I deals primarily with the general meaning and extension of science, the development and interrelations of the social sciences, and the range and methods of social research In general this is an *introductory* emphasis Part II deals primarily with the development of the social sciences and the special *approaches*, Part III deals primarily with the special *methods* of social research, and Part IV emphasizes details of *procedure* and certain "corollaries" involved in next steps Necessarily there are overlappings, just as there are throughout the text itself The classification is an approximate one and appears more useful than one without classification other than alphabetical, or one arranged by chapters

Examples of overlapping are numerous *James Bryce's Modern Democracies* provides in its introductory parts admirable examples of methodological discussion, of illustrative materials upon politics as "experimental" science, and throughout is of importance to the politico-juristic approach *Alfred Marshall's Principles of Economics* affords excellent discussion of the scientific method, of attempts toward social analysis, and of many phases of the economic approach *Franklin H Giddings' The Scientific Study of Human Society* affords distinctive treatment of the scientific method, of special methods, such as the survey, the case, the experimental and the statistical, as well as of the sociological approach The work of *Wesley C Mitchell* and *Henry L Moore* are valuable not only for their bearing upon the economic approach but also for their contribution to general methodology, to special methods, and to the new theory *Floyd H Allport* and *Stuart A Rice* appear to contribute, in this volume, more vividly to methodology in political science than in psychology and sociology Finally, books like *Ogburn and Goldenweiser's The Social Sciences and Their Interrelations*, *Floyd N House's The Range of Social Theory*, and *Harry Elmer Barnes and others' The History and Prospects of the Social Sciences* manifestly offer a wide range of reference Such overlapping and interrelation are not only not objectionable but are representative of the present status and processes of social research itself To a considerable extent these and other references are "annotated" in the footnotes and context throughout the book Another advantage of this wider selection and classification

may be found in its representation of the range in variable usage of terms and concepts and in conflict theories and attitudes. Again illustrations are numerous. Frederick J. Teggart's discussions of method over against the discussions of progress and culture, by Hertzler, Ellwood, Chapin, Ogburn, Wissler, special concepts of method as limited technique over against the larger concepts of social scientists in many disciplines, the special treatment of methods as found in the statistical, case, survey, and others, over against the general, all-inclusive concepts of methods as observation, experimentation, and comparison. And so for conflicting verdicts concerning the fields and methods of many of the social disciplines. Here again, the variability is indicative of the present situation and references to it are a part of the first essentials. For the most part, however, the bibliography and footnotes are based upon an actual working relation to the text in its various parts with the attempt to reduce to a minimum reference merely for reference's sake. Of the 325 different books and 284 different articles listed, perhaps four score books and two score articles are repeated and practically all are either mentioned or quoted in the text.

"Original" Sources. The application of the term "original sources" in this volume is twofold. The first refers to the usual usage as applying to documentary sources or first references. The second refers to current or recent "new" materials which have come from actual research or narration in progress. Manifestly the present volume need not feature original sources of the first sort. The task would be limitless, it is in no way in accord with the purpose of the book, it would be ineffective to attempt superficially what others have done well in the several special fields, for the purpose of "stating the case" of this introduction, the secondary references may be accepted as authentic. The principle applies equally, whether the references are relatively easy to find and report, such as John Stuart Mill's *A System of Logic*, or whether they be original sources in the languages of European scholars, or in the technical terms of biology or physics or chemistry. The quantitative task would be stupendous and there are ample authoritative secondary references. In the case of the new materials the task is more important. This, too, however, is an undertaking in itself to justify a special work larger than the present one. A part of this is being undertaken by the Committee on Scientific Methods of the Social Science Research Council already referred to often, another part is being done by the *Social Science Abstracts*,

and still other parts await some such assignment as the making of an adequate source book on current social research

In the present volume will be found a number of specific references cited purely for particular illustration. This will explain the contrast in types of references listed. A volume on method may stand alphabetically alongside a sample reference about method or an illustration of a type of research. In particular, examples of accurate portraiture as types of scientific description with a minimum of bias have sometimes been cited, such as *Milton Metfessel's Phonophotography in Folk Music*, *N N Puckett's Folk Beliefs of the Southern Negro*, *Julia Peterkin's Black April* or *Scarlet Sister Mary*, or *Howard W Odum's Rainbow Round My Shoulder*. Manifestly the attempt here was to obtain exact pictures and descriptions of folk-phenomena as they are and not as interpreted to be from an entirely different cultural angle. Other similar references will be apparent from time to time, while many references to current discussions, some popular, some technical, are given as representative of the present "picture," without appraisal of value. Needless to say that a critical analysis of the present bibliography, special analysis of limited portions of it, or extended lists in any or all divisions, may constitute further effective tasks in this field.

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INDEX

For books and for authors not listed in the text discussion see alphabetical bibliography at the end of the book Topics followed by n indicate reference to footnotes only

- Abbott, Edith, 199
Abbreviations and symbols, 396
d'Abro, A., 9-10, 15, 40
Achenwall, Gottfried, 286-287
Adams, Grace, 142 n
Adams, John, 46, 162
Adams, J T, 17
Agricultural Index, 352
d'Albe, Fournier, 104
Alexander Hamilton Institute, 76
Alice Mandelick Flagler Foundation, 76
Allen, E W, 8
Allen, H F, 115
Allport, F H, 133, 135-138, 140, 142-146, 158 n, 163 n, 172, 193-194, 199, 307, 309, 420, 426
Amalgamated Clothing Workers of America, 76
Amana Society, 270
American Anthropological Association, 57-59
American Anthropologist, 355
American Arbitration Association, 76
American Association of Law Schools, 57 n
American Association for Organizing Family Social Work, 76
American Association for the Promotion of Social Science, 59
American Association of Social Workers, 57 n, 58
American Bankers Association, 75
American Child Health Association, 76
American Collegiate Schools of Business, 57 n
American Council of Learned Societies, 340, 356
American Economic Association, 57-59, 75, 340
American Economic Review, 355
American Eugenics Society, 128
American Federationist, 355
American Geographical Society, 265
American Historical Association, 57-59, 340
American Historical Review, 355
American Journal of International Law, 355
American Journal of Physical Anthropology, 355
American Journal of Psychiatry, 355
American Journal of Psychology, 355
American Journal of Sociology, 206, 355
American Labor Legislation Review, 355
American Labor Year Book, 353
American Law Review, 355
American Library Association, 357
American masters of social science, fundamental characteristics of, 329
American Men of Science, 353, 385
American Mercury, 355
American Philosophical Society, 105
American Political Science Association, 57-59, 173
American Political Science Review, 355
American Psychiatric Association, 57 n, 146
American Psychological Association, 57, 59
American Social Science Association, 59
American social science journals and periodicals, cited, 355
American Sociological Society, 57, 59, 75, 199, 200
American Statistical Association, 57, 59
American Year Book, 353
Ammon, Otto, 122
Ampere, A M, 46
Analogical approach, the general, 108-119, appraisals of, 116-117, relation to the historical approach, 212
Analogical and organic theories, 160-161, forms and processes, 162-163

INDEX

- Analogies, early physical, 108, biological and organic, 110-111, effective, 112-114, popular false, 118-119, organic, 121-122, 136-138, limitations of organic, 122-124
- Analogy, fallacies of pure, 48-49, in contemporary approaches, 111-112, versus identity, 117-118, 221, and special social problems, 118-119, and comparative study, 149-151, and essence, 161-162, extended to natural laws and social laws, 163-164, types of, 183-185, and history, 217
- Analyses, anthropological, 24, economic, 24, of human geography, 24, historical, 24, of legal scholarship, 24, of politics, 24, psychological, 24, sociological, 24
- Analysis, and statistics, 301-302, of data, meaning of, 386, and interpretation, first steps in, 387-389
- Analyzing, interpreting, and presenting results, 386-401
- Annals of the American Academy of Political and Social Science*, 355
- Annals of the Association of American Geographers*, 355
- Anthropogeography, and race, 156-157, and history, 224
- Anthropological approach, the, 148-158, general contributions of the, 151-153, to special problems, 157-158, versus the sociological approach, 196
- Anthropological journals, cited, 355
- L'Anthropologie*, 355
- Anthropology, social aspects of, 44-45, cultural divisions of, 60, interrelations with other social sciences, 67-68, and other social disciplines, 152-153, and economic problems, 152, and ethics, 152, and history, 152, and law, 152, 171-172, in relation to present-day problems, 152, the "cultural" approach, 153-156, the case method and, 238, statistics and, 301
- Appendices to a manuscript, 393
- Applications of social science, 423-424
- Approach, methods, and techniques, differentiated, 21-22
- Approaches and methods classified, 90-91
- Arago, Dominique, 46
- Archimedes, 403
- Archiv für Sozialwissenschaft und Sozialpolitik*, 355-356
- Aristotle, 25, 56, 101-102, 162, 403
- Aronovici, Carol, 246 n, 247, 251 n, 254
- Association of American Law Schools, 59
- Astronomers, cited, 46
- Atlantic Monthly*, 17, 355
- Audubon, John J., 46
- Austin, John, 47
- Autobiography, versus life history document, 241
- Avogadro, Amadeo, 46
- Aycock, C B, 84
- Ayers, C E, 14-15, 17
- Backgrounds, physical, 43
- Bacon, Francis, 25, 47, 94, 101, 269, 317
- Baer, K E von, 46
- Bagby, English, 142, 145
- Bagehot, Walter, 143
- Bailey, W B, 291, 293, 375
- Bain, Read, 206, 235 n, 236-237, 242, 250 n, 255 n
- Bakeless, J E, 107
- Baker-Crothers, Hayes, 199
- Balfour, Arthur, 123
- Barnes, H E, 4 n, 41 n, 57, 60, 62, 97 n, 107, 128 n, 135 n, 136 n, 151 n, 161, 163 n, 165 n, 174 n, 189 n, 194, 200, 201, 202 n, 206, 213 n, 214 n, 216, 307 n, 426
- Barry, Frederick, 5, 7 n, 312
- Bassett, J S, 223
- Beach, W G, 199
- Beard, C A, 4 n, 403 n, 419
- Beccano, C B, 46
- Becker, Carl, 214 n
- Becker, Howard, 197 n, 265 n, 416 n
- Beethoven, Ludwig von, 9
- Behavior, the inherent basis of, 141-142
- Bell, Charles, 46
- Bell, Clive, 4 n
- Bellamy, Edward, 115, 269
- Bennett, E N, 105
- Bentham, Jeremy, 46-47, 49, 188, 190
- Bentley, A F, 162
- Berenson, Bernhard, 33 n
- Bergson, Henri, 9

- Berkeley, George, 47, 49
 Bernard, L L, 7, 133, 135, 139-140,
 142-143, 194, 199, 229 n, 239 n, 240,
 256 n, 307, 310
 Bernoulli, Daniel, 46
 Berthollet, Claude, 46
 Berzelius, J J, 46
 Bessel, F W, 46
Better Times, 355
 Bibliographies, in general 356-357, in
 the social sciences, cited, 356-357
 Bibliography, making a, 357-359, the
 appended, 393, form of, 397-398,
 examples of a, 398-399, character
 and effectiveness of, 425, limitations
 and difficulties of, 425, a representa-
 tive, 425-467
 Bigelow, K W, 60, 189
 Bingham, W V, 378
 Biological approach, the, 120-132,
 three general viewpoints of the, 120,
 genesis and objectives, 120, selected
 problems, 130-132
 Biological contribution, extent of the,
 129-130
 Biological journals, cited, 355
 Biologists, cited, 46
 Biology, 40-41, social aspects of, 44-45,
 divisions of, 60, scope of human, 120-
 121, and social development, 125-
 126, other contributions of, 127, and
 general social problems, 128, the case
 method and, 238
 Bishop Hill Colony, 270
 Black, Joseph, 46
 Blackman, Elinor, 236 n
 Blackmar, F W, 146, 291, and Gillin,
 J L, 247, 254, 295, 297 n
 Blackstone, William, 46
 Block, M, 287
 Boaz, Franz, 130, 149, 151, 157 n, 196,
 199, 301, 308, 310, 417 n
 Boas School, the, 156
 Bode, Johann, 46
 Bodenhofer, W B, 137
 Bodin, Jean, 46
 Body of the manuscript, the, 393
 Bogardas, E S, 139 n, 199, 232, 235 n,
 236, 237, 240 n, 241, 242 n, 244 n,
 247, 253, 256 n, 290, 333
 Böhm-Bawerk, Eugen von, 187-188
 Bolingbroke, H S, 46
 Bonald, M de, 46
Book Review Digest, 352
 Booth, Charles, 244
 Booth, William, 245
 Bosanquet, Helen, 80
 Bossard, J H S, 410
 Bowley, A L, 290, 296 n, 297, 300
 Bowman, Isaiah, 266 n
 Bowman, LeRoy, 199
 Boyd, L J, 274
 Boyle, Robert, 46
 Bradford, Gamaliel, 328 n, 329 n
 Bradley, James, 46
 Branford, Victor, 209
 Branson, E C, 354
 Bearley, H C, 413
 Breckinridge, Sophonisba, 199
 Bretherton, C H, 104
 Brewster, David, 46
 Briffault, Robert, 80
 Briggs, M S, 105
 Bristol, L M, 110 n, 118 n, 122 n,
 126 n, 287 n, 297
British Journal of Psychology, 355
 Brook Farm, experiment, 271, Phalanx,
 271
 Brookings Graduate School, 87
 Brotherhood Societies, the, 270
 Brown, Robert, 46
 Brown, R M, Steiner, J F, and, 414 n
 Brown University, 87
 Brunhes, Jean, 60, 156 n, 209
 Brunner, E deS, 247, 257, 295, 298 n,
 375
 Bryan, W J, 269
 Bryce, James, 51 n, 163, 167, 212, 283,
 418 n, 426
 Bücher, K, 123
 Bucklin, H S, 247, 249, 250 n
 Burbank, Luther, 261
 Bureau of the Census, 353
 Bureau of Foreign and Domestic Com-
 merce, 353
 Bureau of Government, Amherst Col-
 lege, 75
 Bureau of International Research, Har-
 vard University and Radcliffe College,
 75
 Bureau of Labor Statistics, 353
 Bureau for Municipal Research, Har-
 vard University, 76
 Bureau of Railway Economics, 75

INDEX

- Burgess, E W, 195 n, 200, 206, 236, 238, 239 n, 242, 247, 250 n, 253, 258, Park, R E, and, 58, 134, 137 n
 Burgess, J W, 66
 Burke, Edmund, 46, 111
 Burnham, W H, 142
 Burtt, E A, 94
 Bushnell, C J, 225
 Business, as a field for social experimentation, 267-269
 Butler, N M, 313
 Butt, N I, Harris, F S, and, 11 n, 54 n
 Cabet, Étienne, 115, 269, 271
 Caldwell, W E, 217 n
 Calhoun, A W, 80
 Calhoun, J C, 162
 California Economic Research Council, 75
 Calvin, John, 46, 163
 Campanella, Tommaso, 46-47, 115
 Campbell, Norman, 10-11
 Carbon copies, 382
 Carey, N C, 47, 49, 109
 Carlill, H F, 105
 Carlson, A J, 36
 Carlyle, Thomas, 46
 Carmichael, R D, 333
 Carnegie Corporation, 36
 Carnegie Endowment for International Peace, 226, 304
 Carnegie Institution of Washington, 75
 Carrington, Hereward, 328, 329 n
 Carr-Saunders, A M, 199
 Carus, Paul, 117
 Carver, T N, 112, 116 n, 269 n, 270 n, 271 n, 278
 Case, C M, 7, 124, 154, 158, 214 n
 Case, the fortuitous, 242, the historical, 242
Case Book on Scientific Method in the Social Sciences, 22-24, 58
 Case history versus life history, 241-242
 Case method, the, 229-243, range of the, 229-230, records and the, 229-230, scope and definition, 230-232, underlying principles of the, 220-232, characteristics of the, 233-234, objectives of the, 234-236, difficulties and limitations of the, 236-238, scientific validity of the, 236-238, relation to social disciplines and other methods, 238-240, as a means of qualitative interpretation, 240, and special social problems, 242-243, versus the survey method, 255-256
 Case study, defined, 235, versus case work, 232-233
 Cases, classification and technique of, 241-242
 Cassini, Giovanni, 46
 Catlin, G E G, 179, 181, 416 n, 418
 Catalogs and indexes, 351-352
 Cavendish, Henry, 46
Century, 355
 Chaddock, R E, 7-8, 26, 200, 280, 286, 288-290, 291 n, 295, 297, 346-349, 375, 379
 Change, social, 42, 44
 Channing, W E, 271
 Channing, Edward, Hart, A B, and Turner, F J, 357
 Chapin, F S, 27, 74, 146, 200, 215 n, 218, 233, 238, 251 n, 270 n-272 n, 276, 277 n, 278, 280, 285 n, 294 n, 295, 375, 378, 427
 Charters, W W, 34-35
 Chastellux, F J de, 46
 Chateaubriand, F R de, 46
 Chemists, cited, 46
 Cheney, E P, 215, 221 n
 Chevreul, Michel, 46
 Children's Bureau, 353
 Chladni, Ernest, 46
 Christian Church, the, 269
 Church and religious experience, research problems in the, 84-85
 Citations, references, and footnotes, 393-397
 Claghorn, K H, 293 n
 Clairault, Alexis, 46
 Clark, J B, 185, 187-188
 Classical examples of importance of exhaustive analysis, 415-417
 Cohen, M R, 309, 312
 Coker, F W, 161
 Cole, Fay-Cooper, 199
Commerce Reports, weekly, 353
Commerce Yearbook, 353
 Commissioner-General of Immigration, 353
 Committee on Interracial Cooperation, 415

- Common sense, 336-338, in everyday procedure, 338-339
Common-sense technique, and personnel, 324-341
Commons, J R, 161
Community, a major institution, 44, and larger associational relationship, research problems in, 85, a complex field, 114, social experimentation and utopias, 269-271
Comparative method, and historical approach, 212
Compton, K T, 29, 33
Comte, Auguste, 47, 49, 61, 99, 111, 137-138, 184, 206, 278
Conclusions, of manuscript, 393
Condillac, E B de, 47
Condorcet, M de, 46-47
Conklin, E G, 126 n
Conrad, J, 357
Contemporary Review, 355
Continuity, of text and reference secured, 342-343
Cooley, C H, 7, 11-12, 14-17, 94, 112, 138, 145, 319, 337
Cornell University, 207, 331, 354
Correspondence, telephone, and telegraph, 368-370
Cortissoz, Royal, 328 n
Coulcomb, C A de, 46
Council for Research in the Social Sciences, Columbia University, 75
Cousin, Victor, 47
Cradge, A D, 115
Crime, studies of, 413-414
Croley, Herbert, 136
Crusoe, Robinson, 231
Cult of the perfect, 423
Culture, 124, defined, 154-156, areas, 155, elements of, 155, traits of, 155
Cultural factors, in society, 154
Cummings, John, 291, 375
Current History, 355
Curtis, W C, 34
Cushman, H E, 26 n., 47 n., 94 n
Cuvier, Georges, 46
D'Alembert, 46
Dalton, John, 46
Daniels, John, 247
Darrow, F L, 41 n.
Darwin, Charles, 5, 98, 118, 120, 125, 131, 165, 329 n
Darwin, Major Leonard, 131
Darwinism, social, 124-125
Data, qualitative versus quantitative, 239
Davenport, C B, 249
Davies, Mary, 274
Davis, Jerome, 200, 353
Davy, Humphry, 46, 275
Day, E E, 290 n., 297 n
Dealey, J Q, 80, Ward, L F, and, 333
Deardorf, N R, and Kellogg, P U, 69
Deduction, and induction, 25-26
Defining, and delimiting the subject, 345-346
De Krief, P H, 329 n
Democracy, and the state, 167-168, defined, 168
Dent, E J, 105
Dercum, F X, 106
De Roberty, E, 109, 137
Descartes, René, 46, 48, 185, 317
Description, observation, and statistics, 298-301
De Selincourt, Basil, 105
Development, and training of research personnel, 339-341, and extension of social research, 421-423
DeVries, Hugo, 126
Dewey, John, 11, 17, 92, 99, 100, 103, 152, 183, 308, 312, 419
Dictaphone, the ediphone or, 381-382
Dictionary of American Biography, 353
Difference, individual and social, 44
Diffusion, law of, 155
Dinsmore, C A, 17
Direct methods of securing data, 348
Discoveries, modern, 41-42
Dissertations, doctoral, special classification of, 73
Distinctive nature, of human phenomena, 313-316
Dobree, Bonamy, 105
Donnelly, Ignatius, 115
Douglas, S O G, 200
Douglass, A E, 17
Dow, G S, 199
Draghicesco, D, 137
Draper, George, 17
Dresser, H W, 47 n.
DuBois, E F, 275

- Duffus, R L, 303
 Duguit, L, 161-162
 Dulong, P L, 46
 Dunning, W A, 111 n, 162
 Duplicating and reproducing, methods of, 382-384
 Durant, Will, 101
 Durkheim, Emile, 111, 137-139, 143, 182
 Dwight, J S, 271
- East, E M, 4 n, 17, 107, 199, 214, 273
 Ecology, human, 209
 Economic approach, the, 176-192, development from political economy, 176-177, twofold nature of the, 177, a comprehensive and advanced approach, 177-179, a major approach 178, some relationships, 178, to social problems and social welfare, 179-181, philosophical background of the, 185-186, as the classical approach, 187, development of the, 187-188, current tendencies of the, 188-190, and research problems, 191-192, research problems cited, 191-192, and special selected problems, 192, versus the sociological approach, 194-195
 Economic determinism, 181-183
 Economic reform, some theories of, 180
 Economic "theory," 186-188
Economica, 355
 Economics, divisions of, 60, interrelations with other social sciences, 68, classifications of, 73, and political science, 170-171, orthodox, 190, the historical approach and, 213, history and, 225, the case method and, 238, statistics and, 300
 Economics journals, cited, 355
 Economists, cited, 47
 Eden, Richard, 188
Edinburgh Review, 355
 Ediphone or dictaphone, the, 381-382
 Edman, Irwin, 11, 14, 288 n, 293
 Education, a major institution, 44, classifications of, 74
Educational Directory, 385
 Einstein, Albert, 98, 423 n.
 Eliot, C W, 333
 Eliot, T D, 199, 225
 Elliott, W Y, 160
- Ellis, Havelock, 139
 Ellwood, C A, 7, 13, 135, 138-139, 143, 150, 179, 199, 215 n, 226, 246, 247 n, 252, 254, 292, 301, 427
 Elmer, M C, 245 n, 246, 249, 251 n, 253, 256 n, 257, 292, 354, 378
 Elster, L, 357
 Emerson, R W, 271
 Emory University, 415 n
Encyclopedie Americana, 353
Encyclopædia of the Social Sciences, 58, 352, range of, 72-74
 Engineering, social aspects of, 44-45
 Equipment, filing, 384
 Essence, and comparative analogy, 161-162
 Ethics, social aspects of, 44-45, divisions of, 60, social, interrelations with anthropology, 68
 Eubank, E E, 204-205
 Euclid, 9
 Eugenics, and heredity, 130, and social research, 128-129
Eugenics Review, 128, 129
 Euler, Leonhard, 46
Europäische Gespräche, 355
 Evolution, Social, 124
 Experiment, definition and scope of, 262, as a continuous experimental process, 262
 Experimental data, statistics and, 302
 Experimental method, the, 260-283, and special problems, 263-264, a keynote to all science, 274-276, corollaries of the, 277-279, difficulties of applications to the social sciences, 279-281, further application to the social sciences, 279-281, the present problem of the, 281-282, development of procedure in the, 283
 Experimental studies, pioneer belts as, 264-266
 Experimentation, and invention, 260-262, as exploration, 262, borderline, 271-273; animal, 272, "direct" and "indirect," 278, "natural," 278-279
 Exploring the research sources, 342-370
 Extension, development and social research, 421-423
- Fairchild, Milton, 331, 335
 Fairlie, J A, 299

- Fallacy, the institutional, 144-145, of the absolute, 423
Family, The, 355
 Family, home and, a major institution, 44, as a composite problem of social research, 79-81, a universal social unit, 158
 Faraday, Michael, 46
 Faris, Ellsworth, 199
 Faulkner, H V, 299
 Federal Reserve Board, 353
Federal Reserve Bulletin, 353
 Fermat, Pierre de, 46
 Fichte, J G, 46-47, 111, 160
 Filing, equipment, 384, notes, 365-366, systems, 385
 Findlay, Alexander, 5
 Fiske, A K, 115
 Fling, F M, 217 n, 219 n, 221 n, 223, 389
 Flippin, P S, 224
 Florida land boom, 83
 Folk-background studies, 409-413
 Follett, Mary, 99, 199
 Folsom, J K, 215 n
 Footnotes, citations, and references, 383-397, examples of, 396
 Forbes, A B, 116 n
 Force, Peter, 46
 Foreign journals in the social sciences, cited, 355-356
 Fouillée, A, 111, 138, 161-162
 Fourier, Charles, 47, 184, 271
 Fox, D R, 214
 Frank, Glenn, 17, 333
 Franklin, Benjamin, 46
 Fraunhofer, Joseph, 46
 Frazer, J G, 123
 Fresnel, Augustin, 46
 Freud, Sigmund, 139, 182
 Freudian School, 135
 Freyd, Max, 378
 Fuller, J F C, 105
 Fuller, Margaret, 271
 Galileo, 9, 26, 46, 317, 403
 Galpin, J C, 354
 Galton, Sir Francis, 126
 Galvani, Luigi, 46
 Garrett, Garet, 105
 Gauss, K F, 46
 Gay-Lussac, L J, 46
 Gehlke, C E, 234 n, 239, 240 n, 285 n, 292-293, 294 n, 296 n, 297
 General form, of the presentation of material, 391-393
 George, H B, 221 n, 223 n, 389
 Geographical journals, cited, 355
Geographical Review, 355
 Geography, social aspects of, 44-45, dimensions of human, 60, and politics, 166-167
 Gibbon, Edward, 46
 Giddings, F H, 6, 13, 112, 138-139, 161, 162 n, 163, 168, 183, 199, 200, 206, 213, 215 n, 218, 220, 224, 230-231, 232 n-234 n, 237, 239 n, 241-243, 244 n-245 n, 246, 248 n, 250 n, 252, 254, 256-258, 282-283, 286, 290, 293, 303, 332, 418 n, 420, 426
 Gide C, and Rist C, 184 n, 187 n, 188
 Gierke, O von, 160-162
 Gillin, J L, 199, 252, 266, Blackmar, L W, and, 247, 254, 295, 297 n
 Ginsburg, M, 137, 182
 Givler, Robert, 60
 Gloag, John, 104
 Goddard, P E, 149
 Godwin, William, 46
 Goldenweiser, Alexander, 60, 151, 157 n, 199, Ogburn, W F, and, 40, 55, 62, 65, 67, 94 n, 95, 97 n, 123, 127, 133 n, 134, 135 n, 140 n, 143 n, 148 n, 149 n, 152 n, 158 n, 171 n, 176 n, 183 n, 194 n, 200 n, 213 n, 225 n, 236, 239 n, 285 n-286 n 288 n-, 289 n, 296 n, 299 n, 301 n, 307 n, 309 n-310 n, 312 n, 426
 Good, C V, 360
 Goodsell, Willystine, 80, 107, 200
 Government, a major institution, 44, relation to industry, 169-170
 Grady, Henry, 84
 Graham, G M, 102 n
 Grant, Madison, 124, 199
 Gras, N S B, 152, 182
 Graunt, John, 287
 Graves, F P., 329 n
 Graves, J T, 84
 Greef, G de, 184
 Green, E L, 410
 Green, Paul, 410
 Gregory, J W, 124

INDEX

- Gregory, Richard, 34
 Gronlund, Laurence, 115
 Groos, Karl, 111
 Gross, Murray, 257
 Grossé, E., 182
 Grotius, H., 46, 163
 Groups, ethnic, 43
 Groves, E. R., 10, 107, 131, 145, 199, 200
 Gruenberg, B. C., 54 n
 Guericke, Otto von, 46
 Gumplowicz, Ludwig, 124, 137, 161-162
 Gutman, Walter, 33
- Haldane, J. B. S., 6, 17, 104
 Hale, G. E., 17
 Hale, R. L., 171
 Hall, G. S., 29, 34-35, 37, 111, 140 n, 329 n
 Halley, Edmund, 46, 287
 Hamilton, Alexander, 46-47
 Hamilton, J. G. de R., 227
 Hamilton, G. V., 107, 135, 264, 267
 Hamilton, Sir William, 117
 Hamilton, W. H., 170, 332
 Haney, L. H., 184 n, 185, 187 n, 188
 Hankins, F. H., 43 n, 60, 111 n, 126 n, 129 n, 142 n, 146, 154, 156 n, 199-200, 202-203, 287 n
 Harmon, John, 104
Harper's, 17, 355
 Harrington, James, 46
 Harns, F. S., and Butt, N. I., 11 n, 54 n
 Garrison, S. M., 245, 249
 Hart, A. B., Channing, Edward, —, and Turner, F. J., 357
 Hart, B. H. L., 105
 Hart, Hastings, 199
 Hart, Hornell, 27, 72 n, 134, 199-200, 220, 222, 276-277, 280 n, 294-296, 298
 Hart, I. B., 54 n
 Hart, J. K., 7, 11, 13, 16-17, 94, 98 n
 Hartley, O., and Leyel, Mrs C. F., 105
 Harvard University, 207
 Hawthorne, Nathaniel, 271
 Hayes, E. C., 58, 62
 Haynes, E. P. S., 104
 Healy, W. H., 145
 Heard, Gerald, 104
 Heeren, A. H. L., 46
 Hegel, G. W. F., 46-47, 101, 111, 160-161
 Heilner, Van Campen, 274
 Helmholz, H. L. F. von, 9, 31
 Helvetius, C. A., 46
 Henry, Joseph, 46
 Herbart, J. F., 47, 49
 Herder, 46, 111
 Herrick, C. J., 28, 54, 103, 121, 123, 125 n, 130, 135, 142, 412 n, 419 n
 Herschel, William, 46
 Herskovits, M. J., 199
 Hertzka, Theodor, 115
 Hertzler, J. O., 213 n, 215 n, 427
 "Hidden springs of the economic order," a social denominator, 417-419
 Hildebrand, Richard, 182
 Historians, cited, 46
 Historical approach, the, 210-228, sociological approach versus the, 195-196, versus historical method, 210-211, 215-217, definition and scope of the, 211, its relation to other approaches and disciplines, 211-213, 216, 224-226, and comparative method, 212
 Historical criticism, 219-220, external, 219, internal, 219
 Historical investigation, technique of, 216
 Historical journals, cited, 355
 Historical method, purpose and scope of, 217-218, fundamentals of, 219, limitations of, 221-223, and cooperative research, 223-226, and special social problems, 226-228
 Historical narrative, art of, 216
Historical Outlook, 355
 Historical source materials, national southern collection of, 227-228
 History, divisions of, 60, interrelations with other social sciences, 68, classifications of, 74, economic interpretation of, 181-183, the meanings and reach of, 213-215, the "new" or synthetic, 214, 217, and analogy, 217, a science or an art, 223, and other social sciences, 224-225, the case method and, 238; statistics and, 299-300
 Hobbes, Thomas, 46-48, 111, 123, 160, 185
 Hobhouse, L. T., 99, 123, 161, 182
 Hobson, J. A., 176

- Hoffman, C W, 264
 Holcombe, A N, 225, 307
 Homan, P T, 100, 163, 178, 181, 185-186, 189-190, 311, 315, 329 n, 420 n
 Home and family, a major institution, 44, research problems in,—relationships, 84
 Hooke, Robert, 46
 Hooten, E A, 199
 House, F N, 27, 30, 47 n, 96, 102, 113, 124, 131, 135 n, 137 n, 146, 157 n, 166, 174, 179, 200-201, 206, 209, 300, 301, 324, 409, 419 n, 426
 House, S D, 134
 Howard, G E, 80
 Howells, W D, 115, 269
 Hudnut, R A, 199
 Hudson, W W, 116
 Huggins, William, 46
 Human behavior, the key to the psychological approach, 134-136
 Human bias, types of, 317-318
 Human factor, in social research, 316-318
 Human phenomena, distinctive nature of, 313-316
 Humanistic and social sciences, research in, 75-76
 Humboldt, Alexander von, 46
 Hume, David, 46-47, 185
 Hunter, John, 46
 Huss, John, 269
 Huxley, J S, 13, 117, 123, 127, 146, 336
 Hypothesis, the working, 12, the, a key method, 95

 Icarian community, the, 271
 Impersonal confession, the, 242
 Importance of trained research personnel, in the social sciences, 324-325
 Incidence, social, 44
Independent, 355
 Index, place of the, 393
 Indexes, cited, 351-352
 Indirect methods, of securing data, 348
 Individual and social differentiation, research problems in, 83
 Induction, deduction and, 25-26
Industrial Arts Index, 352
 Industrial democracy, 179-180
 Industrial Revolution, in the South, 83
 Industry, a major institution, 44, and working conditions, research problems in, 85, relation to government, 169-170
 Inheritance, law of ancestral, 126, Mendelian ratio of, 126
 Institute for Economic Research, 340
 Institute of Economics, 75
 Institute for Government Research, 75
 Institute for Research in Land Economics and Public Utilities, 75
 Institute for Research in Social Science, University of North Carolina, 75, 83 n, 87
 Institute for Research in the Social Sciences, University of Virginia, 75
 Institute for Social Research, University of Chicago, 195
 Institutional economics, approach through, 189-190
 Institutions, six major, cited, 44
International Index to Periodicals, 352
International Labor Review, 356
 Interpretation, first steps in analysis and, 387-389, of results, meaning of, 386
 Interpreting, analyzing, and presenting results, 386-401
 Interrelation of the physical and social sciences, 39
 Interstate Commerce Commission, 353
 Interview, the, 366-367, preparing for the, 367-368
 Introduction, the, 392
 Invention, and social progress, 41-42, and experimentation, 260-262
 Inventions, modern, 41-42, physical and mechanical, 261
 Irvin, Will, 107

 Jeerg, W L G, 266 n.
 Jefferson, Thomas, 227
 Jenks, Jeremiah, 162
 Jennings, H S, 105
 Jevons, F B, 94, 123
 Joad, C E M, 105
 Jocher, Katharine, 80 n, 200, 256 n
 Johnson, Allen, 217 n, 220-221 n, 223-224, 226, 389
 Johnson, A S, 72
 Johnson, G B, 199

INDEX

- Johns Hopkins University, 207
 Jones, Llewellyn, 389
 Jones, T J, 418 n
 Jordan, D S, 4
Journal of Abnormal and Social Psychology, 355
Journal of American Folklore, 355
Journal of the American Institute of Criminal Law and Criminology, 355
Journal of the American Statistical Association, 355
Journal of Applied Psychology, 355
Journal de Droit International, 355
Journal of Economic and Business History, 355
Journal of Educational Sociology, 355
Journal of Geography, 355
Journal of Heredity, 355
Journal of Political Economy, 355
Journal of the Royal Statistical Association, 355
Journal of Social Science, 59
Journal de la Société de Statistique de Paris, 356
 Journals and periodicals, cited, 354-356
 Judd, C H, 144
 Jung school, 137
 Jurisprudence, divisions of, 60, inter-
 relations with anthropology, 68, and
 natural laws, 165-166, historical, 165,
 metaphysical school of, 166, biolog-
 ical interpretation of, 166, economic
 interpretation of, 166, ethical view of,
 166, ethnological interpretation of,
 166, political, 166
 Jurisprudence journals, cited, 355
 Jusserand, J J, 220 n., 222-223

 Kamm, Oliver, 416
 Kant, Immanuel, 47, 111, 117
 Keller, A G, 175, 200, Summer, W G,
 and, 43 n., 80, 116, 139, 182
 Kellogg, P U, 247, Deardorf, N R,
 and, 69
 Kelso, R W, 199
 Kepler, John, 46, 403
 Kibler, T L, 358
 King, C L, 170
 King, W I, 285-286, 287 n., 289, 346-
 349, 375
 Kinneman, J. A., Martz, C E, and,
 248, 250 n

 Kirkpatrick, E A, 248 n
 Kissinger, J R, 275
 Klein, D B, Perrin, F A C, and,
 135
 Kohler, Wolfgang, 142, 148, 272, 322
 Kolb, J H, 354
 Kovalevski, M, 123
 Kroeber, A L, 135, 152, 155, 199,
 412
 Krueger, E T, 241
 Kruif, Paul de, 272
 Krutch, J W, 17
 Ku Klux Klan, 83-85, 414

 Labor journals, cited, 355
 Lagrange, Joseph, 46
 Laidler, H W, 116 n., 184 n., 271 n
 Laird, D. A., 138
 Lamarck, J B de, 46, 121, 126, 273
 Langlois, Ch V and Seignobos, Ch,
 217 n., 218-219, 220 n-221 n., 389
 Lansing, Marion, 54 n
 Laplace, Pierre, 46
 Lapouge, Vacher de, 111, 124
 Larned, J N, 357
 Laski, H J, 161-162, 423 n
 Laubenstein, P F, 17
 Lavel, Dole, 329 n
 Lavoisier, Antoine, 46
 Law, classifications of, 73, and anthro-
 pology, 171-172
 Lazear, Jesse, 275
 Leadership, 44
 League of Nations, 263
 Le Bon, Gustav, 138, 143, 162
 Lee, Vernon, 105
 Leeuwenhoek, Antonius von, 46
 Legendre, Adrien, 46
 Leibnitz, G W von, 46-47
 Lemar, L Q C, 84
 Le Play, Frederic, 113, 209
 Letourneau, C, 123
 Letter writing, technique of, 368-370
 Levy-Bruhl, L, 199
 Lewis, H T, 248 n
 Library of Congress, 351, 356-357
 Library research, 349-351, catalogs and
 indexes, 351-352, special references
 and sources, 352-354
 Lichtenberger, J P, 47 n., 110 n-111 n.,
 118 n., 137 n., 139 n., 161 n
 Lieber, Frances, 31 n

- Life history, document versus autobiography, 241, versus case history, 241-242
- Lilienfeld, Paul von, 110, 121, 123, 160-161, 184
- Limiting factors of social research specialist, 334-336
- Lindeman, E C, 8, 27, 94, 116, 151, 199
- Linnæus, Carolus, 46
- Lippmann, Walter, 17, 107, 136
- Livingston, B E, 33 n
- Lobatchevsky, Nicolai, 46
- Local Community Research Committee, University of Chicago, 75, 83 n
- Locke, John, 46-47, 161, 185, 199
- Lodge, Sir Oliver, 6-7, 54 n
- Logic, deductive, 25, formal, 26, philosophy, and scientific method, 101-102
- Loria, 264-265
- Lowie, R H, 152, 199
- Ludovici, A M, 104
- Lundberg, G A, 239 n, 240
- Luther, Martin, 46
- Lynd, R S, 360, and Lynd, H M, 149 n, 193, 199, 259, 415 n
- Mabillon, Jean, 46
- Mably, G B de, 46
- Macallum, A B, 11
- MacCurdy, G G, 199
- Mace, C A, 105
- Mac Gowen, Kenneth, 264 n
- Machiavelli, Niccolo, 46
- MacIver, R M, 99, 162, 199, 201, 236
- MacLaurin, Cloin, 46
- Madison, James, 162
- Maistre, J de, 111
- Maitland, F W, 160-162
- Making research available, 401
- Malebranche, Nicolas de, 47, 185
- Malinowski, Bronislaw, 171, 199
- Malpighi, Marcello, 46
- Malthus, T R, 47, 119, 131, 188, 197, 416-417
- Man, the study of, 148-149
- Manly, J M, and Rickett, Edith, 361, 363, and Powell, J A, 370
- Mann, Maurice, 275
- Manson, Sir Patrick, 275
- Manufacturers' Research Association, 75
- Manuscript, divisions of the, 392-393, form of the typed, 399-400, preparation of the, 399-400
- Marshall, Alfred, 178, 180, 184, 188 n, 416 n, 417-418, 426
- Marshall, L C, 67, 170, 326-327
- Martz, C E, and Kinneman, J A, 248, 250 n
- Marx, Karl, 166, 182
- Mason, Frances, 54 n
- Mathematicians, cited, 46
- Mathematics, 40
- May, E C, 274 n
- Mayer, Joseph, 54, 312
- Mayo-Smith, Richmond, 293 n, 297 n.
- McClanahan, B A, 199
- McColvin, L R, 104
- McDonald, William, 29
- McDougall, William, 124, 162
- McIver, C D, 84
- McKenzie, J S, 98
- McKenzie, R D, 209, 258
- McSpadden, J W, 329 n
- Measures of progress toward the scientific-human concept, 321
- Mechanistic theories, 108-110
- Meister, Joseph, 275
- Melanchthon, Philip, 46
- Mendel, J G, 126, 272-273
- Merriam, C E, 59, 64, 136, 163, 173, 176, 194, 196, 268
- Merriam, J C, 33
- Merrill, A A, 115
- Meroney, W P, 8 n
- Metfessel, Milton, 147, 199, 410, 428
- Method, versus methods of social research, 20-21, interpretations of, 22-23, conceptual meaning of, 23, logical meaning of, 23, technical meaning of, 23, scientific, 24-25
- Methodology, general, 20
- Methods, of science, 20, in the social sciences, 20-22, of science and research, 20-38, and approaches classified, 90-91
- Metron*, 355
- Metropolitan Life Insurance Company of New York, 75
- Meyers, J L, 148 n
- Miami, hurricane, 83
- Michelson, A A, 423 n
- Mill, J S, 46, 101, 117, 185, 188, 427

- Miller, Hugh, 11
 Millikan, R A, 17, 34, 50
 Milton, John, 46
 Mimeographing, 382, 383
 Miscellaneous periodicals, cited, 355
 Mitchell, Arthur, 9 n
 Mitchell, W C, 25, 57, 64, 136, 181,
 189, 190 n, 267 n, 280, 300, 302, 319-
 320, 326, 336, 420, 426
 Monge, Gaspard, 46
 Montfaucon, Bernard de, 46
 Montague, W P, 94, 97
 Montesquieu, M de, 46, 162-163
Monthly Labor Review, 353, 355
 Moore, H L, 426
 More, Sir Thomas, 46, 115, 269
 Morgan, L H, 123, 150
 Morize, André, 361, 365
 Morris, William, 115, 269
 Morse, H N, 247, 250 n, 257
 Moses, Bernard, 46
 Mowrer, E R, 200
 Mudge, I G, 357
 Mukerjee, Radhakamal, 107, 209
 Multigraphing, 382-383
 Mumford, Lewis, 116 n
 Mun, A A M de, 47
 Municipal research, bureaus of, 36
 Muratori, L A, 46
- Nation*, 355
 National Bureau of Economic Research, 191
 National Conference on the Science of Politics, 51
 National Education Association, 59
 National Institute of Public Administration (and Bureau of Municipal Research), New York City, 75
 National Research Council, 38, 42, 64,
 66, 75, 340, Committee on Scientific Problems of Human Migration of the, 42
 National southern collection of historical source materials, 227-228
 Natural laws and jurisprudence, 165-66
 Negro, background studies of the, 410, and crime, 413-414
Negro Yearbook, 353
 Nemours, Dupont de, 46, 184
 Neumann, Caspar, 287
 New Harmony, Owenistic settlement at, 271
New Republic, 355
 Newsholme, Arthur, 294 n
 Newton, Isaac, 9, 46, 49, 98
 New York Public Library, 357
New York Times Index, 352
 Nieboer, H J, 182
 Niebuhr, B G, 46
 Noguchi, Hideyo, 274
 Nomenclature of Le Play, the, 113
 North American Phalanx, the, 271
 North Carolina Social Study Series, 83 n
 North Italian Protestants, colonies of the, 270
 Notes, filing, 365-366
 Note taking, 361-362, details of, 363-365, length of, 362-363
 Novicow, Jacques, 122, 124, 162
- Observation, description, and statistics, 298-301
 Obtaining data from primary sources, 347-348
 Ockham, David, 105
 Odell, C W, 293-294
 Odum, H W, 59 n, 62, 116 n, 164 n,
 199-200, 214 n, 236 n, 428
 Oersted, H C, 46
 Ogburn, W F, 41, 42 n, 57, 107, 131,
 136, 139, 145, 199, 216, 218, 302, 307,
 420, 422, 427, and Goldenweiser, Alexander, 40, 55, 62, 65, 67, 94 n-
 95, 97 n, 123, 127, 133-135 n,
 140 n, 143 n., 148 n-149 n, 152 n,
 158 n, 171 n, 176 n, 183 n, 194 n,
 200, 213 n, 225 n, 236, 239 n, 285,
 286 n, 288 n-289 n, 296 n, 299 n,
 301 n, 307 n, 309 n-310 n, 312 n, 426
 Ogg, F A, 62, 75
 Ohm, G S, 46
 Olerich, Henry, 115
 Olmstead, A T, 152, 307
 Oppenheimer, F, 162
Opportunity, 355
 Organizing and writing up results, 389-391
 Original sources, 427-428
 Ostwald, W, 109
 Outline, use of the, 387
Outlook, 355
 Owen, Robert, 47, 270-271

- Pach, Walter, 329 n
Page, W H, 84
Pankhurst, E S, 105
Pareto, Vilfredo, 184, 194
Park, R E, 195, 200, 209, 258, 278,
and Burgess, E W, 58, 134, 137 n
Parker, Carlton, 136
Parshley, H M, 4 n, 60, 128, 419 n
Parsons, Geoffrey, 17
Parsons, Philip, 199
Pascal, Blaise, 46
Pasteur, Louis, 275
Peabody, E P, 271
Peabody, Francis, 10
Pearl, Raymond, 17, 107, 120, 131, 199
Pearson, G A, 333
Pearson, Karl, 5, 7-11, 25, 29, 71, 95,
126, 131, 151, 238, 279, 332
*Pedagogical Seminary and Journal of
Genetic Psychology*, 355
Perfectionists, the, 270
Periodicals and journals, 354-356, in
the social sciences, cited, 355-356
Perrin, F A C, and Klein, D B, 135
Perry, H E, 378
Personality, 44, and leadership, re-
search problems in, 84
Personnel and common-sense technique,
324-341
Persons, W M, 300
Peterkin, Julia, 338, 414 n, 428
Peters, C C, 199
Peterson, Joseph, 147, 199
Pettit, W W, 199, 242
Philosophers, cited, 47
Philosophical approach, the, 90-107, a
logical beginning, 91-93, its relation
to the study of society, 92-93, to the
study of the future, 104-105, relation
of the historical approach to the, 211-
212
Philosophy, 46, political, 45, and the
sciences, 47, and science, 93-94, con-
cepts of, 94, as prologue and epilogue
to science, 95, and social theory, 96-
97, and present-day social science,
100-101, versus economics, 100-101,
logic and scientific method, 101-102,
and intellectual stock-taking, 105-
106, and special social problems, 106-
107
Photostating, 382-383
Physical backgrounds, research prob-
lems in, 83
Physical science, expansion of, 40-41
Physical sciences, social significance of,
41, an aid to the development of the
social sciences, 51-52
Physical scientist and the social scien-
tist, essential qualities of, 327-329
Physical and social science, integration
with society of, 43-45
Physical and the social sciences, 27-28,
38-52, contrasts between the, 44-45,
interrelations of the, 44-45
Physicists, cited, 46
Physics, 41
Physiocrats, cited, 184, philosophical
background of, 185-186
Pierson, W W, Jr, 332 n, 333
Pietists, the German, 270
Pink, M A, 105
Pioneer belts, defined, 265, as experi-
mental studies, 264-266
Place of personnel in social research,
324-327
Plato, 37, 56, 94, 115, 160, 269, 412
Playground, 355
Political arithmetic, 286
Political behavior, the key to political
science, 172-173
Political economy, the forerunner of
economics, 176-177
Political Research Bureau of the Repub-
lican Committee of New York, 75
Political science, 46, divisions of, 60,
interrelations with other social
sciences, 68, and politics, classifi-
cations of, 73, definition and scope
of, 167-168, and political economy,
169-171, and economics, 170-171, as
a natural science, 172-173, three
modern characteristics of, 174, his-
tory and, 225, the case method and,
238
Political science journals, cited, 355
Political Science Quarterly, 355
Political scientists, cited, 46-47
Politico-juristic approach, the, 159-175,
development of the, 159-160, and
other social disciplines, 171-173, con-
tinuing development of the, 173-174,
and special problems, 174-175, the
sociological approach versus the, 194

- Politics, and geography, 166-167, as a field for social experimentation, 267-269, statistics and, 299
- Pollak Foundation for Economic Research, 75
- Poole's Index*, 352
- Poole's Index Supplement*, 352
- Popenoe, Paul, 80, 107, 131
- Population, as an example of the range of social research, 76-77, studies of, 131-132
- Pound, Roscoe, 60, 97, 101, 165, 174, 194
- Powell, J A, Manly, J M, and, 370
- Preface, the, 392
- Preparing, for the study, 346-347, for the interview, 367-368, the manuscript, 399-400
- Prescott, W H, 46-47
- Presentation of results, analyzing and interpreting, 386-401, meaning of, 386-387, general form of the, 391-393
- Priestley, Joseph, 46
- Primary sources, obtaining data from, 347-348
- Princeton University, 207
- Printing, 382-383
- Problem, selecting a, 344-345
- Program, research, 43
- Progress, scientific, 40, invention and social, 41-42
- Projects, research, 32
- Prony, Gaspard, 46
- Proust, J L, 46
- Pruette, Lorine, 329 n
- Psychiatry and psychiatric social work, 146
- Psychological approach, the, 133-147, the expanding, 133-134, other earlier psychological approaches, 138-139, recent trends in the, 139-141, through institutions, 143-145, other contributions of the, 145-146, the sociological approach versus the, 194
- Psychological concepts, applied to society, 138-139
- Psychological journals, cited, 355
- Psychology, social aspects of, 44-45, interrelations with anthropology, 68, classifications of, 74, and special social problems, 146-147, history and, 225, the case method and, 238, statistics and, 300
- Public Affairs Information Service*, 352
- Public welfare, as social politics, 168-169, research problems in, 169
- Puckett, N N, 147, 410, 411 n, 428
- Pupin, M I, 10, 35, 312
- Pythagoras, 56
- Quarterly Journal of Economics*, 355
- Quarterly Journal of the Royal Economic Society*, 355
- Quarterly Review of Biology*, 355
- Queen, S A, 199, 231, 232 n-233 n
- Quesnay, François, 47, 184, 187
- Questionnaire, the, 376-378, versus the schedule, 376, length and form of the, 376-378, mailing the, 377, use and limitations of the, 378
- Quetelet, Adolphe, 49, 111, 287, 294
- Race, anthropogeography and, 156-157
- Radin, Paul, 199, 408
- Ranke, Leopold von, 46, 220
- Rapp, Georg, 270
- Rapists, the, 270-271
- Ratner, Joseph, 92 n, 99 n, 103 n
- Ratzel, Friedrich, 156, 166, 209
- Ratzenhofer, Gustav, 137-138, 161-162
- Raynal, G T F, 46
- Readers' Guide to Periodical Literature*, 351-352
- Readers' Guide Supplement*, 352
- Reading and readings, 359-361
- Redfield, Robert, 149
- References, citations, and footnotes, 393-397
- Reference volumes, listed, 353-354
- Region, southern, defined and delimited, 82
- Regional approach, the, 409-411, 413-415, in sociology, 208-209, examples of research through, 413-415
- Regional problem, a, illustrated by the textile industry in the South, 85-87
- Religion, a major institution, 44, scientific, 99
- Rembrandt, 9
- Representative bibliography, a, 425-467, basis of classification and selection of, 426-427
- Reproducing and duplicating, methods of, 382-384

- Research, the methods of science and, 20-38, the chief mode of science, 28-30, the reach and scope of, 31-32, general concepts of, 32-33, as a name, 32, as a shibboleth, 32, as a slogan, 32, as intellectual search, 33, as organization and interpretation of knowledge, 33, as organization of mental resources, 33, as organized effort, 33, the spirit of, 34, "pure," 32-34, 36, applied, 32, 34-36, practical, 35, academic, 36, a fundamental process, 36, institutional, 36, professional, 36, as scientific method, 36, as scientific search for truth, 36, general varieties of, 36-37, naive, 37, partisan, 37, pedantic, 37, Pickwickian or curio-hunting, 37, practice, 37, scientific, 37, Socratic or Dialectic, 37, and the methods of science, 37-38, the apex of creative evolution, 38, and study, southern regional, 81-85, cooperative, 88-89
- Research aids, general statement of, 371, utilizing available, 371-385
- Research councils, institutes, and bureaus, cited, 75
- Research helps, miscellaneous, 385
- Research method, corollaries of, 319-320, versus research technique, 343-344
- Research methods, conditioned by personnel, 326
- Research personnel, development and training of, 339-341
- Results, organization and writing up of, 389-391
- Reuter, E B, 199
- Revue Economique Internationale*, 355
- Revue Internationale de Sociologie*, 355
- Ribot, Theodule, 134, 136
- Ricardo, David, 47, 188, 197, 416
- Rice, Grantland, 414
- Rice, S A, 22, 136, 194, 200, 221 n, 230, 231 n, 238 n, 240, 268, 285 n, 317-318, 410, 417 n, 420, 426
- Rickert, Edith, Manly, J M, and, 361, 363
- Rignano, Eugenio, 197, 212, 264, 416 n
- Riis, Jacob, 245
- Riley, T J, 246, 251 n, 254
- Ripley, George, 271
- Rist, C, Gide, C, and, 184 n, 187 n, 188
- Ritchie, A D, 9
- Rivers, W H R, 137-138
- Riviere, Mercier de la, 184
- Robertson, William, 46
- Robertson, W J, 415 n
- Robinson, D S, 419 n
- Robinson, J H, 136, 214, 317
- Rockefeller Foundation, 36
- Roemer, Olaus, 46
- Rose, E R, 33, 36
- Ross, E A, 4 n, 22, 107, 139, 157
- Rousseau, J J, 47, 160, 185, 413
- Rumford, Count, 46
- Rus, 353, 385
- Russell, Bertrand, 10, 40, 92, 99, 100, 104, 419
- Russell Sage Foundation, 245, 247, 356
- Sabine, G H, 97
- Saint-Simon, C H de, 49
- Sanderson, Dwight, 354
- Sapir, Edward, 158, 199
- Sarton, George, 40, 54
- Savigny, F K von, 46
- Saville, Henry, 46
- Scarrboro, Dorothy, 199
- Schaffle, Albert, 122, 160
- Schedule, first essentials of the, 372-373, general principles of the, 372-376, making the schedule effective, 373-376, size and form of the, 374, salient points in schedule making, 375-376, versus the questionnaire, 376
- Scheele, C W, 46
- Schelling, F W J von, 111, 160
- Schiller, F C S, 104-105
- Schiller, J G F von, 46
- Schlesinger, A M, 214
- Schlosser, F C, 46
- Schluter, W C, 346, 348
- Schmidt, H J, 46
- Scholastics, the, 26
- School and education, research problems in, 84
- Schopenhauer, Arthur, 46-47
- Science, and the human search, 3-19, and society, 3, applied, 3, major implications of, 3, pure, 3-4, 14, as search, 3-4, telic, 4, and caution, 4-5, facts of 5, spirit of, 5, general meaning of,

- 5-6, "natural" or physical, 5, 14, 42, as knowledge, 6-8, as truth, 6-8, unity of, 8, as law, 8-10, as method, 8-9, 14, as perfection, 9-10, as form, 10, as numbers or directions, 10, as an attitude of mind, 10-11, as a method of thinking, 10-11, as intellectual orientation, 11, as hypothesis, 11-13, as common sense, 13-14, popular concepts of, 14, as art, 14, as description, 14, as a difficult process, 14, as elaborate documentation, 14, as a fetish, 14, as folklore, 14, as an interrelation of abstract ideas, 14, as logic, 14, as mathematical formula, 14, as meticulous detail, 14, as a popular norm, 14, as religion, 14, as a special discipline, 14, as pseudoscience, 14-15, as method and technique, 14, 18, and art, 15-16, and philosophy, 16, and religion, 16, criticisms of, 16-17, as fact and truth, 17-18, four measures of, 17-18, as consistency, 17-19, as unity, 17-19, as an attitude of mind and spirit of approach, 18, as unity and purpose with life and society, 18, and research, the methods of, 20-38, as the basis of civilization, 29, unity of the physical and social sciences, 49-50, difference between the physical and social sciences, 50-51, advance of, 53-54, common concepts of, 93, and philosophy, 93-94
- Scientific articles, range of, 74
- Scientific humanism, 99
- Scientific-human method, the, 305-323, as a fundamental concept in method and approach, 305, as a synthetic approach, 305-306, as a means of studying society as a whole, 321-322; applied to special social problems, 322-323
- Scientific-human research, requisite method for, 318-320, present trends in, 320-322
- Scientific method, 5-6, 20-22, 30, as steps or phases in the research process, 26-27, minimum essentials of, 26-27, application to natural phenomena, 28, philosophy, logic, and, 101-102
- Scientific Monthly*, 355
- Scientific philosophy, 99-100
- Scientific problem, stages in the solution of, 28
- Scientific religion, 99
- Scientific research, as scientific method, 24-25, extent of, 29, versus social study and theory, 30-31, unity of, 34
- Scientists, influence of the physical upon the social, 45-47, cited, 46-47
- Scott, Ernest, 218 n, 221 n, 224
- Seashore, Carl, 147, 410-411
- Secondary investigation, meaning and technique of, 348-349
- Secrist, Horace, 290 n, 297, 349, 375
- Seignobos, Ch., Langlois, Ch., and, 217 n-221 n, 389
- Selecting a problem, 344-345
- Selection, natural, 125, sexual, 125
- Seligman, E R A, 160, 213, 224
- Semple, Ellen, 156, 175
- Separatists, the, 270
- Shackford, M H, 357
- Shakers, the, 270
- Shaw, Bernard, 412
- Shaw, C R, 230-231
- Shepard, Walter, 60, 163, 173
- Shepherd, W R, 59, 66
- Sidgwick, Henry, 94
- Sill, H A, 331
- Simmel, Georg, 111, 137, 162
- Sims, N L, 112
- Slosson, E E, 41 n, 54
- Small, A W, 27, 33, 37, 64, 139, 162, 205
- Smith, Adam, 46-47, 96, 182, 185, 187
- Smith, R G, 154 n, 196
- Smith, T V, 102 n
- Snedden, David, 199
- Social analysis, and the social denominator, 402-424, social research and, 402-403, limitations and prospects of, 403-404, and interpretation, simple illustrations of, 407-409
- Social betterment versus race betterment, 127
- Social change, research problems in, 83
- Social denominator, or the social constant, the, 405-407, general examples of the, 419-421
- Social disciplines, range of, 71-72

- Social ethics and social research, 102-103
Social experimentation, fields for, 266-267, social legislation as, 267, in business and politics, 267-269, utopias and community, 269-271, human participation in, 273-275, development of, 282-283
Social Forces, 206, 355
Social incidence, research problems in, 83
Social-industrial relationships in the textile South of the United States, a research program in, 86-87
Social legislation, a type of social experimentation, 267
Social philosophy, versus social science, 97-99, classifications cited, 202-203
Social politics, as public welfare, 168-169
Social prepotency, 411-413
Social problems, philosophy and special, 106-107, analogy and special, 118-119, biology and general, 128, psychology and special, 146-147, anthropological approach and, 157-158, politico-juristic approach to, 174-175, economic approach to, 179-181, 192, through the sociological approach, 208-209, historical method and, 226-228, the case method and, 242-243, the survey method and, 258-259, statistics and, 302-304, modern emphasis upon, 321-322, scientific-human method and, 322-323
Social progress, invention and, 41-42
Social psychology, divisions of, 60, 143, potential power of, 140-141, scope of, 142-143
Social research, interdependence of social action and, 69, the range of, 71-89, quality and quantity of, 72, applied to special approaches and methods, 87-89, eugenics and, 128-129, telic character of, 308-310, the human factor in, 316-318, place of personnel in, 324-327, and social analysis, 402-403, limitations and prospects of, 403-404, development and extension of, 421-423
Social research specialist, essential personal qualities and equipment of the, 330-332, special attributes of the, 332-334, negative aspects of qualifications of the, 334-336
Social science, physical and, integration with society, 43-45, and social guidance, research problems in, 85, the newer, 136, applications of, 423-424
Social Science Abstracts, 58, 74, 352, 427
Social Science Research Council, 22, 38, 57-59, 62, 64, 74-75, 81, 265, 291, 340, 352, 403 n, 420, 427, Committee on Scientific Methods of the, 220, range of the, 76
Social sciences, methods in the, 20-22, peculiar characteristics of, 27, the physical and, 27-28, 38-52, contrasts between the physical and the, 44-45, interrelations of the physical and the, 44-45, distinctive problems of the, 51, prevailing limitations of the, 62-63, use of the, 53-54, development and interrelation of the, 53-70, alignment of the physical and, 54-56, development from the physical sciences, 55-56, cited, 57-58, range of the, 57-58, other recent developments in the, 59-60, divisions within the, 60, logical development of the, 60-62, status and promise of the, 61-62, new alignment of the, 63-65, closer integration of the, 65, aspects of the interrelation of the, 65-67, objections and limitations to the interrelation of the, 66-67, types of interrelations of the, 67-69, promise of the, 69-70, and related disciplines, 73-74, diversities and antagonisms in the, 306-308, cited, 308, different from the physical sciences, 310-313
Social scientist and physical scientist, essential qualities of, 327-329
Social Service Review, 355
Social study and social work journals, cited, 355
Social study, theory, and scientific research, 30-31
Social theory, philosophy and, 96-97
Social welfare, economic approach to, 179-181
Society of Chemical Industry, 50
Society, and physical and social science, 43-45, units of study of, cited, 48,

- mechanistic interpretation of, 48-49,
economic interpretation of, 181-183
- Sociological approach, the, 193-209,
problems of the, 193, compared with
other approaches, 193-196, some dis-
tinctive concepts of the, 196-197,
wide range of the, 197-200, tendency
to coordinate and correlate with other
approaches, 198-199, trends and con-
tributions of the, 198-200, tendency
toward differentiation and speciali-
zation within the, 199, examples of
specialization and differentiation,
cited, 199-200, relation to other
approaches, 201-202, synthesis and
method in the, 200-202, versus social
philosophy, 202-203, varying view-
points of the, 203-204, through
theories and concepts, 204-205, cur-
rent tendencies in the, 205-207, and
special problems, 208-209
- Sociological concepts, listed, 205
- Sociological journals, cited, 355
- Sociological Review*, 355
- Sociologists, cited, 47, classifications of,
203-204
- Sociology, divisions of, 60, interrelations
with anthropology, 67-68, interrela-
tions with other social sciences, 68,
classifications of, 73, in American
colleges and universities, 207-208,
obstacles and difficulties of, 208, his-
torical approach and, 213, history
and, 225, the case method and, 238-
239, statistics and, 300
- Sociology and Social Research*, 355
- Socio-philosophical approach, view-
point of the, 203
- Sorokin, Pitirim, 30, 47 n, 109 n-111 n,
113 n, 118 n, 122 n, 126 n, 132,
137 n, 139 n, 151 n., 185 n, 196, 200,
204, 324
- Sources, exploring research, 342-370,
original, 427-428
- South Atlantic Quarterly*, 355
- South, research problems in the, 83-
85
- Southern regional research, social study
and, 81-85, problems listed, 83-85
- Sparks, Jared, 46
- Spartans, the, 269
- Specialization, research, 35
- Special references and sources, 352-354
- Spellanzani, Lazaro, 46
- Spencer, A G, 80
- Spencer, Herbert, 96, 110, 121-123,
138-139, 151, 160-162, 184
- Spengler, Oswald, 6, 9, 29, 136, 312,
315-316, 341, 412
- Spillman, W J, 251 n
- Spinoza, Baruch de, 46-48
- Spykman, N J, 63, 92, 95, 200, 203
- Stapleford, E N, 276
- Starr, Harris, 329 n
- State, and political relationships, re-
search problems in, 84, organic con-
cepts of the, 160-161, democracy and
the, 167-168
- Statesman's Year-book*, 353
- Statistical Abstract of the United States*,
annual, 353
- Statistical bureau, value of, 380
- Statistical equipment, listed, 379
- Statistical helps, 379-380
- Statistical journals, cited, 355
- Statistical method, the, 284-304, con-
tribution of the, 289-290, relational
elements of the, 292-294, essentials
of the, 293-294, value and validity of
the, 294-296, limitations of the, 296-
298
- Statistics, methods of, 26, interrelations
with anthropology, 68, and the unity
of social research, 284-286, a tool and
a science, 285, the developing science
of, 286-287, application of, 287-288,
the heart of the scientific advance,
288, definitions of, 289-290, mean-
ing and scope of social, 290-292,
observation, description, and, 298-
301, and the social sciences, 299-301,
and analysis, 301-302, and experi-
mental data, 302, and special social
problems, 302-304
- Steelman, J R, 415 n
- Stefansson, Vilhjalmur, 275
- Stein, Lorenz von, 160, 162
- Steiner, J F, 114, 199, 242, 245 n, 268,
and Brown, R M, 414 n
- Stern, B J, 150 n
- Stewart, Oliver, 105
- Stoddard, Lothrop, 17, 124, 199
- Stokes, H F S, 105
- Study, preparation for the, 346-347

- Subject, definition and limitation of the, 345-346
Subject Index to Periodicals, 352
Sullivan, J W N, 105
Summary of Foreign Commerce, monthly, 353
Summary, of the manuscript, 393
Sumner, W G, 162, 329 n, 409, and Keller, A G, 43 n, 80, 116, 139, 182
Survey, 355
Survey, early development of the, 244-245, types of, 245, 256-258, the social, 245-248, the social survey versus the sociological, 246, objectives of the social, 248-249, the pattern, 257, the "societal," 257, the variability, 257, the ecological, 258
Survey of Current Business, 353
Survey method, the, 244-259, characteristics of the, 249-251, a quantitative approach, 250, a scientific approach, 251-252, limitations of the, 252-255, versus the case method, 255-256, and special social problems, 258-259
Sutherland, E H, 123
Swann, W F G, 416
Swinburne, J, 199
Sybel, Heinrich von, 220
Symbols and abbreviations, 396
Syracuse University, 207

Table of contents, the, 392-393
Taborites, the, 269
Taking notes, 361-365
Tarde, Gabriel, 111, 138, 143
Taylor, C C, 252, 255 n
Taylor, E B, 154
Tead, Ordway, 136
Teggart, F J, 8, 102 212, 215, 220 n, 222, 238, 427
Telegraph, telephone, and correspondence, 368-370
Telephone and telegraph, correspondence, 368-370
Thom, B A, 104
Thomas, Chauncey, 115
Thomas, D S, Thomas, W I, and, 254 n
Thomas, W I, 139, 145, 200, and Znaniecki, Florian, 80, and Thomas, D S, 264 n
Thomasius, Christian, 46
Thompson, W S, 199
Thoreau, H D, 271
Thorndike, E L, 142
Thorndike, Lynn, 54, 288
Thrasher, Frederic, 135
Thurstone, L L, 28, 133
Thwing, C F and C F B, 80
Tillemont, Sebastian de, 46
Title, the, 392
Toland, John, 47
Tonnies, Ferdinand, 184
Torricelli, Evangelista, 46
Tozzer, A M, 199
Training of research personnel, a major problem, 324-325, and development, 339-341
Trait complex, 155
Trevelyn, R C, 105
Trotter, W, 162
Tufts, J H, 199
Tulane University 83 n, 207
Turgot, A R J, 46-47
Turner, F J, 107, 136, 214, Channing, Edward, Hart, A B, and, 357
Turner, W J, 104
Tylor, E B, 123
Type of procedure in text, a new, 342-344
Types of human bias, 317-318
Typewriter, the, 380-381

United States Census, 353
United States Chamber of Commerce, 75
United States Daily, 352
United States Department of Agriculture, 353
United States Department of Commerce, 353
United States Public Health Department, 353
Unity, of scientific research, 34, of science and social development, 39-40, theory of universal, 184, of social research and statistics, 284-286
University of California, 83 n, 107, 207
University of Chicago, 33 n, 207, 258
University of Helmstadt, 287
University of Michigan, 207
University of Minnesota, 83 n, 107, 207
University of North Carolina, 83 n, 107, 207, 227, 354, 415 n

INDEX

- University of Pennsylvania, 87, 207
 University of Texas, 207
 University of Virginia, 83 n
 University of Wisconsin, 207, 354
 Utilizing available research aids, 371-385
 Utopias, as wishful analogies, 114-116, and social community experimentation, 269-271
- Vanderbilt University, 83 n, 207
 Van Hoesen, H B, 357
 Van Loon, Hendrik, 4 n
 Van Wagenen, T F, 54 n, 276, 329 n
 Vardaman, J K, 84
 Vattel, Emmerichs de, 46
 Veblin, Thorstein, 107, 181, 184
 Vico, Giambattista, 46
 Vidal de la Blache, P, 156 n, 209
 Vinci, Leonardo da, 16
Virginia Quarterly Review, 355
 Viviani, Vincenzo, 46
 Volta, Alessandro, 46
 Voltaire, 46, 216
 Vries, Hugo de, 272-273
- Walcott, C D, 5
 Walker, T H, 152, 199, 319
 Wallace, W K, 419 n
 Wallas, Graham, 136, 179
 Wallis, W D, 224
 Walter, F K, 357
 War, as an example of the range of social research, 77-79, biological theories of, 132
 Ward, L F, 7, 25, 139, 161-162, and Dealey, J Q, 333
 Washington, George, 227
 Watson, J B, 17, 142
 Watson, Tom, 84
 Watt, James, 46
Weather, Crops and Markets, bulletin on, 353
 Weatherford, W D, 199
 Weber, E H, 46
Weekly Health Index, 353
 Weismann, August, 121, 125, 272
 Weld, H P, 142
 Wells, H G, 115, 136, 269
 Westerman, W L, 221, 280
 Westermarck, Edward, 80, 123
 Wheeler, G, 182
Who's Who, 353
Who's Who in America, 353, 385
 Wickham, Harvey, 17
 Wiggam, A E, 17, 127
 Willey, Malcolm, 199, 200
 Williams, J B, 357
 Williams, J M, 199, 294, 298
 Williams, J S, 84
 Wilson, L R, 227
 Wilson, R M, 105
 Wilson, S R, 274
 Wimarsky, L, 49, 109
 Wissler, Clark, 146, 149, 152-154, 156, 157 n, 193, 199, 259 n, 411, 427
 Wolf, A, 276 n
 Wolfe, A B, 295, 298, 307
 Wolff, Christian von, 46
 Wollaston, W H, 46
 Women's Bureau, 353
 Wood, A E, 199
 Woodbury, C J H, 357
 Woodhouse, C G, 80
 Woodruff, L L, 102 n
 Woodworth, R S, 142
 Woofter, T J, Jr, 199, 414
 Woolston, Howard, 199
World Almanac, 353
 World War, the, 37, 41-42, 61, 78, 83, 129, 163, 245, 248, 267, 317, costs of, 303-304
 Worms, Rene, 122, 160-161, 184
 Writing up results, 389-391
 Wundt, Wilhelm, 123, 182
- Yale Review*, 355
 Yale University, 207
 Yerkes, R M, 43 n, 142, 148, 271, 322
 Young, A A, 178 n, 191-192, 291, 307, 309, 311-312, 319, 325, 353
 Young, Kimball, 60, 135, 142-143, 307
 Young, Thomas, 46
- Zeitschrift fur Volkerpsychologie und Soziologie*, 356
Zeitschrift fur Volkerrecht, 355
 Znaniecki, Florian, 199; Thomas, W I, and, 80
 Zwingli, Ulrich, 46